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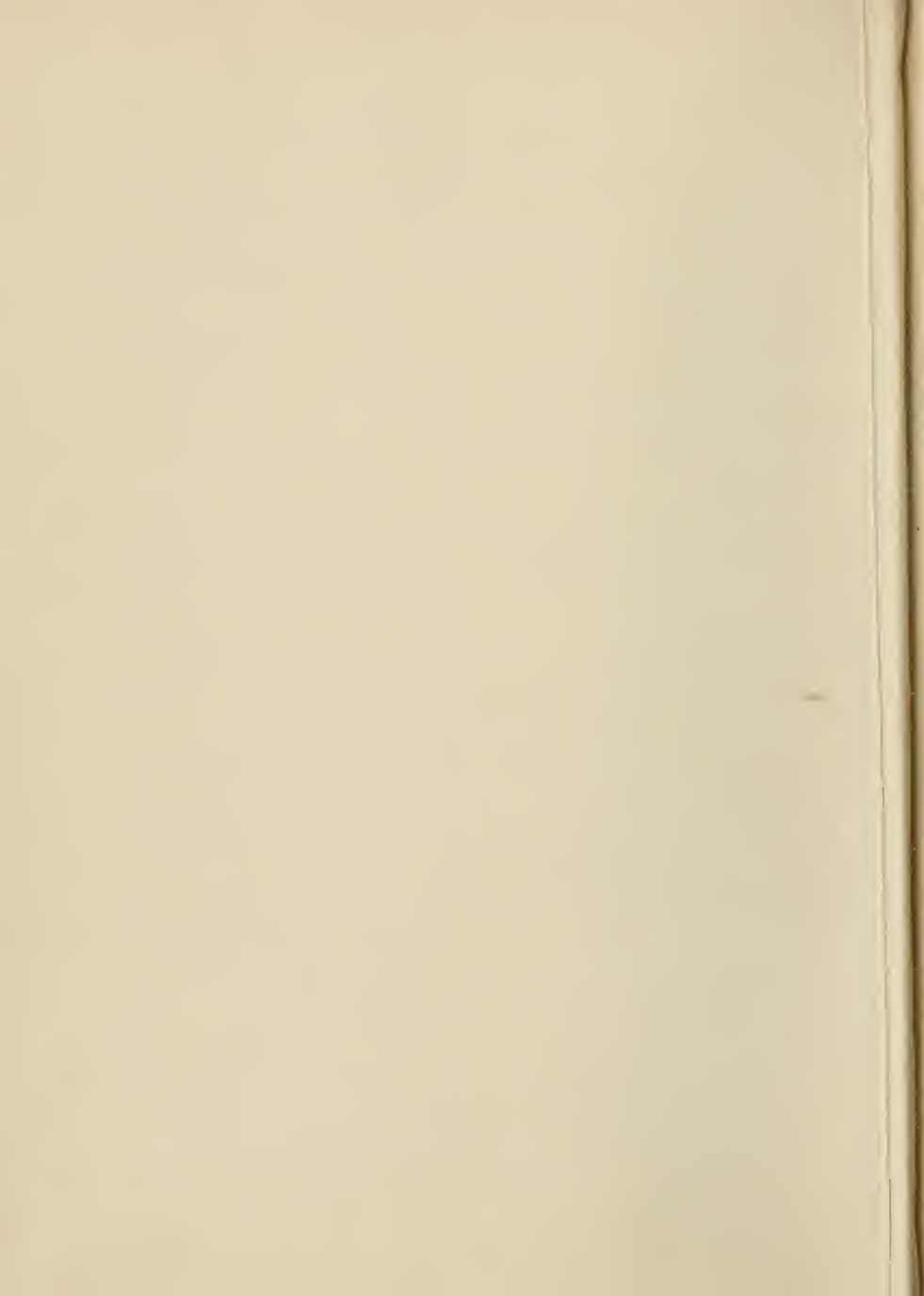
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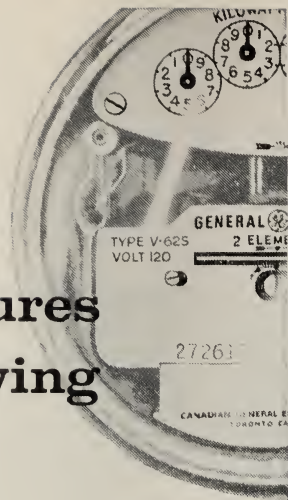
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VARSITY GRADUATE

Volume Nine

Number One

April, 1961

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COVER: "The One World of Scholarship" could be the title for Ken Bell's portrait of two distinguished professors at the University of Toronto. Standing is Professor W. A. C. H. Dobson, Professor of Chinese and Head of the Department of East Asiatic Studies. Seated is Professor A. S. P. Woodhouse, Professor of English and Head of the Department in University College. For an article by Professor Dobson and the meaning of the Chinese characters he chalked on the board, see page 18. An article about Prof. Woodhouse begins on Page 69.

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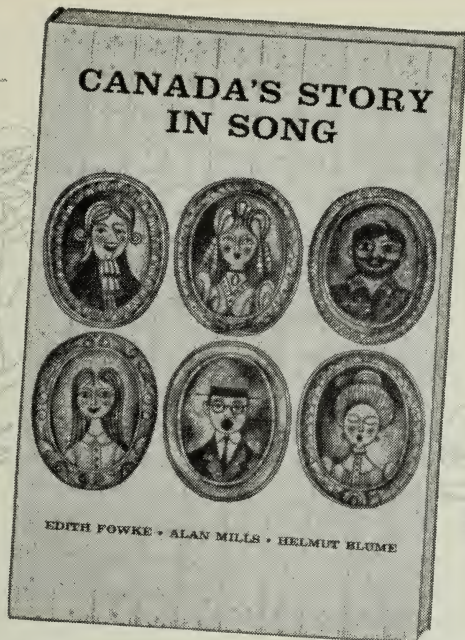
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CLASS NOTES

1896

GEORGE MORE (M) was still carrying on practice in Duncan, B.C., when he celebrated his 90th birthday recently.

1898

WILLIAM M. MARTIN (UC) has retired as Chief Justice of Saskatchewan.

1904

P. M. SAUDER (S) has retired as general manager of the St. Mary and Milk Rivers Development after 56 years of encouraging irrigation in Alberta.

1905

CHARLES GAVILLER (M) and FRANK A. BREWSTER (M '10) were honoured on completing 50 years' service each at Owen Sound General and Marine Hospital.

1911

RT. REV. JOHN DIXON (T) has been named Metropolitan of the Ecclesiastical Province of Canada and Archbishop of Montreal.

1912

JOHN A. MORPHY (S) has retired as vice-president and factory manager after 42 years with the Pedlar People Ltd.

1913

L. R. ANDREWS (F) has retired as executive vice-president of the British Columbia Lumber Manufacturers' Association.

1915

HAROLD S. NICKLIN (S) has retired after 42 years as city engineer in Guelph.

1916

BENNETT J. ROBERTS (V) has retired as president of the St. Lawrence Seaway.

R. A. STORY (S) has been made a life member of the B.C. Association of Professional Engineers.

1917

JUDGE HELEN KINNEAR (UC), first woman to be made King's Counsel or be elevated to the County Bench in the Commonwealth, marked her 40th anniversary of being called to the bar in Cayuga, Ont.

1919

WILLIAM J. BROWNE (S) is solicitor-general of Canada.

1920

ARTHUR KELLY (StM) has been appointed a judge of the Supreme Court of Ontario.

1921

JAMES P. WHYTE (D) is president of the Canadian Dental Association.

1922

R. R. HURST (Ag) has retired as officer in charge of the Federal Agriculture Department research laboratory, Ottawa.

1923

LESLIE M. SPRATT (M) is superintendent of Beck Memorial Sanatorium, London, Ont.

1924

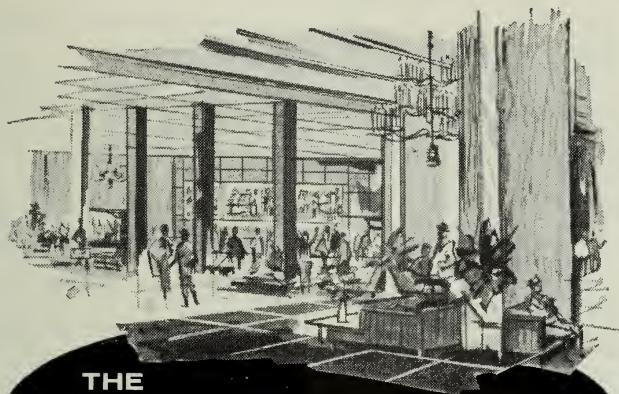
PROF. FRANK A. FORWARD (S), head of U.B.C. metallurgy department, won the John Scott award.

(More notes on pages 8, 10, 12)

Abbreviations

UC—University College; V—Victoria College; T—Trinity College; St M—St. Michael's College; S—Applied Science and Engineering; M—Medicine; D—Dentistry; SW—Social Work; P—Pharmacy; POT—Physical and Occupational Therapy; N—Nursing; HS—Household Science; TC—Teachers' Course; F—Forestry; Ag—Agriculture; VM—Veterinary Medicine; Mus—Music; PHE—Physical and Health Education; GS—Graduate Studies; LS—Library Science; Ed—Ontario College of Education; L—Law; Hy—Hygiene; A—Architecture; B—Business; Ch—Child Study.

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1926

W. S. KIRKPATRICK (S) is first national vice-president of the Canadian Chamber of Commerce.

L. A. SMITH (UC) and J. HUGH BURELL (V '44) were joint winners of the award for outstanding mathematics and science teachers made by the Association of Professional Engineers of Ontario.

1927

C. A. PEACHEY (UC), A. B. HUNT (S '28) and J. G. LITTLE (S '28) are vice-presidents of Northern Electric Co. Ltd.

1929

ELMER D. BELL (UC) is president of the Ontario Progressive Conservative Assn.

1931

REV. CANON F. C. MC RITCHIE (UC) is rector of Grace Anglican Church, Brantford and archdeacon of Brant.

1932

MOST REV. H. H. CLARK (T), archbishop of Edmonton and primate of all Canada, has been elected archbishop of Rupert's Land.

LEONARD HYNES (UC) is chairman of the Executive Council of the Canadian Chamber of Commerce.

J. W. MC NUTT (F) is president of the Ontario Professional Foresters Association.

1933

CLARENCE C. BOUGHNER (V) has been elected president of the World Meteorological Organization's commission for climatology.

ROBERT D. SINCLAIR (A) has opened an office in Orillia.

1934

GEORGE COLE (UC) is vice-president (finance) of Canada Steamship Lines.

FRED L. STEVENS (F) is Lakehead woodlands manager for Abitibi Power and Paper Co. Ltd.

1935

O. F. CARTER (UC) is senior mine geologist at McIntyre Porcupine Mines Ltd.

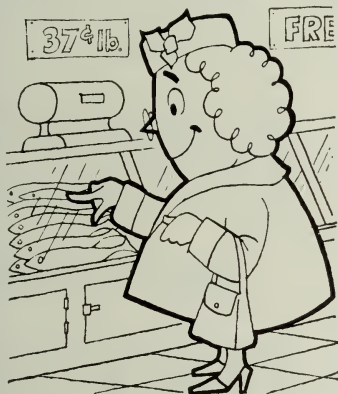
ROY F. GROSS (S) is general manager of the new Canadian Nuclear Assn.

J. HARVEY PERRY (V) is executive director of the Canadian Bankers' Assn.

ARNOLD C. SMITH (UC) is Canadian Ambassador to Russia.



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1936

W. M. PRATT (V) is a vice-president of the Ontario Progressive Conservative Assn.

REV. A. F. WILKINSON (P) has moved from Hanover, Ont., to a position at Tilbury.

1937

R. L. CLARK (S), chief air pollution control officer of Metro Toronto, has been elected president of the Canadian Institute on Sewage and Sanitation.

1938

ALAN H. ARMSTRONG (A) is director of a new Institute of Community Planning in Ghana.

REV. N. H. MACKENZIE (V) has been appointed advisor of the Government of Nigeria on future development of co-operatives in that country.

1939

J. EDWARD ROSE (P) is president of the Proprietary Assn. of Canada.

J. S. STEPHEN (T) is director of personnel administration in the Ontario Civil Service Commission.

1940

E. S. BISHOP (V) is deputy social service commissioner for Ottawa.

REV. DR. W. R. COLEMAN (UC), for eight years principal of Huron College, has been elected bishop of Kootenay.

1941

THOMAS A. SHARPE (S) is Ontario Highways district engineer for Sudbury.

1942

J. N. MULCAHY (StM) is Crown attorney for Renfrew County, Ontario.

S. J. PATRICK (UC) is associate professor of biochemistry at Dalhousie University.

1943

JOHN B. ARMSTRONG (M) is executive director of the National Heart Foundation of Canada.

1944

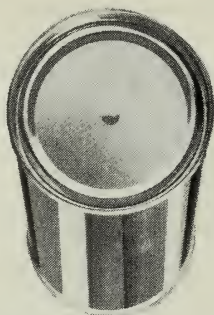
ALEX M. BRYANS (M) is new professor of paediatrics at Queen's University.

MARY ELIZABETH PARK HENDERSON (LS) is chief librarian at Regina College, University of Saskatchewan.

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by J. Robert Coulter, B.A., *Headmaster*

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Examination for entrance scholarships will be held April 20th and 21st.

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Aurora, Ont.



1945

FRANK C. DIMOCK (T) is secretary, Canadian Life Insurance Officers Assn.

1946

F. E. BRYANS (M) is head of the department of obstetrics and gynaecology, University of British Columbia.

JOHN D. HARBRON (UC) has been appointed editor of Executive Magazine.

1947

G. KEITH BLAIR (V) is acting treasurer and assistant to the vice-president (finance) of Massey-Ferguson Ltd.

LOUISE COWAN (SW) is national director of welfare and home teaching for the Canadian National Institute for the Blind.

D. A. HUTCHISON (M) is medical officer of health for London, Ont.

1948

D. C. S. REID (UC) is executive director of the John Howard Society of Alberta.

E. J. SPICER (V, LS '49), is parliamentary librarian at Ottawa.

1949

PETER E. DAUBNEY (F) is plant manager of Booth Lumber Ltd., Tee Lake, Que.

BILL SMILEY (V) now is Canada's most widely syndicated columnist. His humorous comments appear in 111 newspapers, mostly weeklies.

1950

MERVIN J. CARLTON (V) is director of adjustment training for the Ontario division, Canadian National Institute for the Blind.

ROBERT J. REID (StM) is manager of marketing research and distribution for General Tire & Rubber Co. of Canada.

1951

ARMOND J. FITZGERALD (StM) is marketing planning manager of Carling Breweries Ltd.

1955

H. C. SOLTAN (StM) is assistant professor of human genetics at University of Western Ontario.

1959

G. H. WALDRUM (Ed) is president of the Ontario Public School Men Teachers' Federation.

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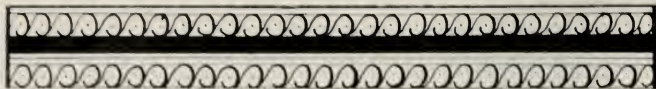
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VARSIY GRADUATE

The President of the University of Toronto
mixes some vision with his facts

The Future of Higher Education in Canada

by Claude Bissell

ROBERT OPPENHEIMER, the great physicist, has recently suggested that human knowledge doubles now every eight or eleven years. He was speaking, of course, of scientific knowledge. The rate of change elsewhere is blessedly less rapid, and human institutions like universities are still able to encompass the new within the framework of the old. And yet such explosive change must inevitably affect institutional patterns. Certainly I think this is true of universities, traditionally one of the most conservative of all human institutions.

Those of us whose university careers have been mainly in the post-Second War era have been so deeply involved in these changes that we have found it difficult to recognize what was happening. But now that new patterns are emerging, we can see what has been the course of development during the last fifteen years or so.

Up to the beginning of the second World War, higher education was largely synonymous with the university. The university looked after a small minority in society. The percentage of college-age youth attending university between the turn of the century and, say, 1930, did not vary greatly; it rose in that period from 2 per cent to 4 per cent. This



Left: This photograph of Dr. Claude Bissell was taken last winter when he visited the University of California, Santa Barbara, to lecture on "The University and the Intellectual". With him is Dr. Samuel B. Gould, the Chancellor of U.C.S.B.

Right: In more familiar surroundings—in the Great Hall of Hart House—in March, the President presents Warden Joseph McCulley with the Extraordinary Honour Award of the Students' Administrative Council. The award, given for only the second time, came as a complete surprise to the Warden. S.A.C. President Peter Demski is the young man at left.

small group was determined by a mixture of economic, social, and academic criteria. The function of higher education was, to prepare an individual for a specific profession. The graduate school, particularly in this country, was a minor excrescence; almost its sole job was to turn out university professors. University education was conceived of as the final processing of a product before it was released for the market.

This process was constantly repeated, and was subjected only to

minor changes. The university did not see itself as an initiator of ideas and movements; creativity belonged to the years after an individual left the classroom, and the centres of action in our society were outside the university. It was common in Commencement Day addresses to talk of the international character of higher education and of how the scholar rose loftily above national boundaries. But actually the university was a national institution even a parochial one, and its internationalist faith was more an assertion



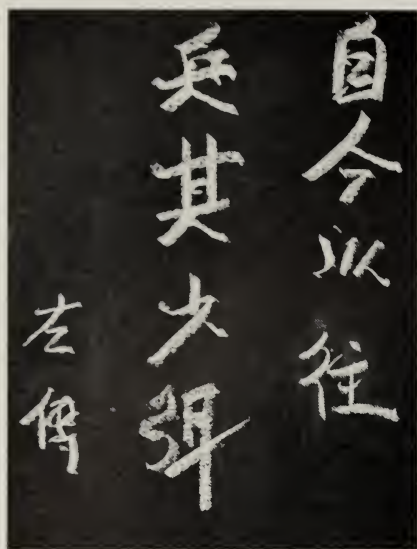
of good intentions than an earnest of accomplishment.

The change that I am about to describe is usually referred to as expansion, which I think is a misnomer, because expansion suggests a stretching of the old, whereas what we are concerned with is an explosive process. The first of the new factors at work was the opening up of areas for higher education that once seemed to be completely alien. Business and industry, for instance, moved vigorously into the field of higher education, first

of all on the technological side, more recently, and with greater *éclat*, on the management side. William Whyte and other commentators on the social scene have described in detail the process of almost uninterrupted training that goes on after a young man leaves the university and becomes part of a large corporation. Indeed, one gets the impression that the young executive to-day is in a perpetual state of pupillage.

Some of the large corporations have

(Continued on page 78)



CO-EXISTENCE, 546 B.C.

"From now on," said Chao Wu, prime minister of Tsin, "may the resort to arms gradually be brought to an end." This hope, expressed by an enlightened statesman in 546 B.C., was Professor Dobson's choice when asked to write a Chinese sentence on the blackboard for our cover photograph.

Tsin was one of the two powerful states of the North China Plain. The other was Ch'u. Tensions had grown between them, and smaller states had sided with one or the other, some under duress. The Feudal League, to which all belonged and which had been created to solve disputes peacefully, had become two armed camps.

Chao Wu's declaration followed a plea for peaceful co-existence by one of the smaller states. "I know the premier of Ch'u personally," he added. "If we are scrupulously courteous to him, we may be able to gradually abolish the use of weapons."

However, after some years of negotiation, that particular attempt at disarmament failed.

The scholars

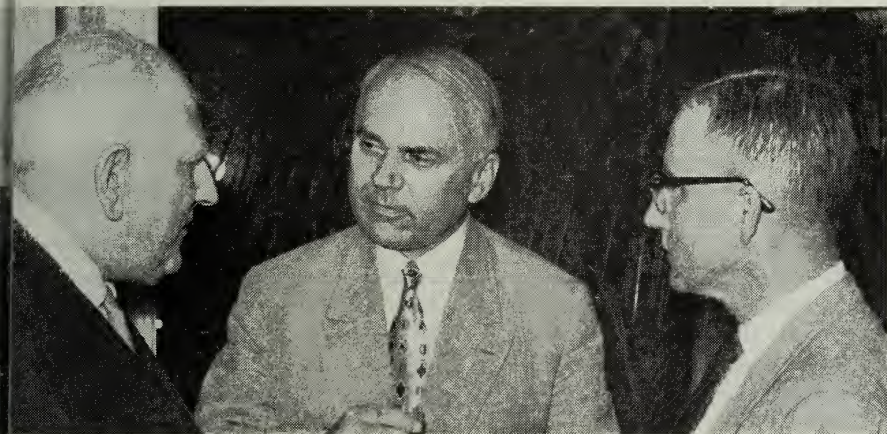
by W. A. C. H. Dobson

I WAS IN MOSCOW for ten days last year as the guest of the Academy of Sciences of the U.S.S.R. The Academy were hosts to the 26th International Congress of Orientalists. Apart from two plenary sessions, I spent all of my time in the section concerned with Sinology. This was my first visit to the Soviet Union, and it was an opportunity not to be missed, to meet Russian scholars concerned with Chinese studies, and to compare progress in Sinology in Russia, with such progress as we are making in the West. I felt that every advantage should be taken of it.

Since coming back I have been continually asked for my "impressions" of political and economic conditions behind the Iron Curtain. I have, I fear, disappointed my questioners. I returned, as I went, with no particular expertise in these fields. I did however meet some fifty Soviet scholars and we talked about the scholarly interests we have in common. For their part they most scrupulously refrained from enquiring about my capitalist sympathies, and I was too interested in their work to ask them what they thought about Communism.

Keep the door open a crack

Head of East Asiatic Studies at Toronto, Professor Dobson is seen below with Professor Demieville of the French Academy, *left*, and Academician Zhukov of the U.S.S.R., *centre*, at a meeting of Orientalists in Moscow. East and West can find common ground at such gatherings, he writes.



Soviet scholars, or at least the ones I met, like scholars anywhere else, are primarily interested in their subject. They welcome bourgeois scholars like myself, as members of a common fraternity. Sinologists are not so numerous in Russia (as indeed they are not anywhere else) as not to welcome most warmly personal contact with other Sinologists with whose work they are familiar. I at any rate was received with great warmth and kindness, had more than generous appreciation expressed for my work with

which they were familiar, and came away with admiration for the academic research being conducted by the Russians. If I gained any political impressions at all, it was to suspect that many Russian scholars are bored with the politics of the cold war and would welcome a return to the day when men of scholarly pursuits travelled the world freely seeking the company of men of similar bent.

Chinese studies have a long, indeed a pre-revolutionary history in Russia. Soviet scholars are currently con-

The world is more than the West

cerned with linguistic problems—with those studies which are a prelude to the major humanistic studies. The Academy itself is engaged in producing a definitive Russian-Chinese dictionary, which promises to be far more comprehensive than anything we in the West have yet contemplated. They are also making intensive methodological studies of the problems of the Chinese language. Translation of classical authors, of the poets, and of literary works also plays a part. In some ways Soviet studies contrast with the North American trend of “practical” i.e. contemporary studies, aimed at immediate practical purposes. This to me was rather a refreshing discovery.

Looking back over these experiences in Moscow, it seems to me that Canadian scientists and scholars, have an *entrée* behind the Iron Curtain, which is not open, or at least as free, to those whose purposes are purely political. Soviet scientists and scholars recognise the community of interest that exists in the academic world, which is a universal world. These contacts are worth keeping alive and perhaps developing further. At least on these levels, scholars can talk to each other across political boundaries. But diplomacy of this kind must observe the rules. It must not be an overt instrument in the cold war. It must be conducted with an awareness of the sensitivity of the political situation on both sides. Perhaps such contacts may in the end transcend politics and prove, as we must all hope, to be the more enduring for doing so.

TELL ME,” Professor Dobson asked his 14-year-old son as they watched a male chorus line on television: “How would you like to say your father was third from the right in the rear row?”

“Oh, I don’t know,” returned young Guy. “It’s bad enough now to have to say he teaches Chinese!”

Thus rebuffed, one of Canada’s leading Sinologists could only chuckle. “This is the worst misconception the public can have,” he explained later. “We don’t just teach the Chinese language in my department. We teach it as a tool to the learning of a lot of other things. If you just want to teach the language, get some good tapes, sit your student down and let him learn it.”

There is no place in Professor Dobson’s curriculum for drill or learning by rote. Instead, students are given the opportunity to rub minds with a world renowned scholar and, as a reward, they learn of another civilization and its historians, philosophers, novelists and poets.

Professor Dobson hopes the day will dawn when Canadian universities will offer comprehensive and specialized courses in the civilizations of the



THE MAKING OF A TRULY GENTLE MAN

PROFESSOR W. A. H. C. DOBSON was once described by a young female student as "a truly gentle man". The description seems to fit the person photographed here with one of his small classes.

"The war," he has said, "was an annoying interruption to scholarship."

That seems to fit, too. Bill Dobson had started his studies in China in 1938. Three years later, he made his way to Singapore, was commissioned in the Argyll and Sutherland Highlander, and was caught there by the Japanese.

But then what happened? "I got away," he will tell you.

He got away to serve under Field Marshals Wavell and Auchinleck, to become personal staff officer to Lord Louis Mountbatten and General Carton de Wiart, to take part in several diplomatic missions to China. Prime Minister Churchill borrowed him for the Cairo Conference. The Canadians made him an advisor on Far Eastern matters. The British sent him to Norway to draft the report on war crimes there, and then to Washington on war crimes business.

Interruption over, Lt.-Col. Dobson enrolled at Christ Church, Oxford. There he was awarded the Chinese Government scholarship and took his Bachelor's and Master's degrees before joining the teaching staff. He was appointed Professor of Chinese and Head of the Dept. of East Asiatic Studies at the University of Toronto on July 1, 1952.

Semitic World, with its modern child, Islam; India and Further India; and China and its cultural provinces of Korea, Japan and southeast Asia.

"There has been an excessive pre-occupation in the Western World with purely Western culture and affairs," he said recently. "More by default than by design, we have identified Western civilization—its history and

philosophy, its literature and art, its laws and religion—with civilization itself. No recognition is given to the classical ages of India and China, though both have a classical language and a considerable classical literature, removed more by space than by time from our own classical antiquity."

This, he suggested, has been partly responsible for breeding into the

Western consciousness an insufferable sense of cultural superiority. "It has begotten the belief that we have a sort of uniqueness in civilisatory achievement."

"As far as students are concerned," he said, "the times call for a generation, not only cognizant and confident of its own civilisatory roots, but aware of and sympathetically attuned to civilizations other than its own—for with them it must come to terms."

And, he added, "the exhilaration of discovery, particularly in the more established disciplines, might well restore to the humanities something of the attractiveness that the pure sciences presently hold for the bright and adventurous. Once, in our Western history, we enjoyed a renaissance through the rediscovery of our own civilization. Perhaps the future holds promise of a second renaissance."

To Prof. Dobson, the study of Chinese means learning the language *and* mastering the fundamental difference of intellectual traditions. After four years his students have read in Chinese the best of the philosophers, historians, poets, dramatists and novelists and have considered them in the light of their own tradition.

Only a small portion of each lecture is taken up with philological and linguistic problems. The emphasis is on the thinking, the type of minds and the times behind the printed characters.

But, while the class in a conversation place for almost everything in the attempt to produce a fully rounded education, it is not forgotten that the

Chinese language is a particularly difficult one for the Western mind to master. Prof. Dobson is only too aware that this is a language without nouns or verbs, subjects or predicates; a language which has defied all attempts by Japanese, European, Russian and U.S. scholars to reduce it to simple principles.

Rather than leave his students to grope their way through a classical language which apparently said one thing but meant another according to the translations, Prof. Dobson rejected a 1912 conclusion that the language had no grammar and sat down to write one. He used the theory of groups (as in advanced mathematics) to work out the distribution of word groups so that students could predict exactly where they would fall.

The book, now known as "Late Archaic Chinese," was so revolutionary that it took 12 years to produce and, when it was finished, the author was afraid to send it to the printers for fear his theory departed so far from conventional thought that it would not be accepted. Since then, however, it has been hailed by Russian and Chinese scholars alike and, only recently, a Russian scholar paid tribute to him for his "careful attitude to the cultures of the great nations of the East." A second book, "Early Archaic Chinese," now being printed, proves beyond shadow of doubt that his theory was correct.

Professor Dobson is now busy on a third book, a translation of basic Chinese philosophy and politics for the layman.

FACULTY FAMILY ALBUM



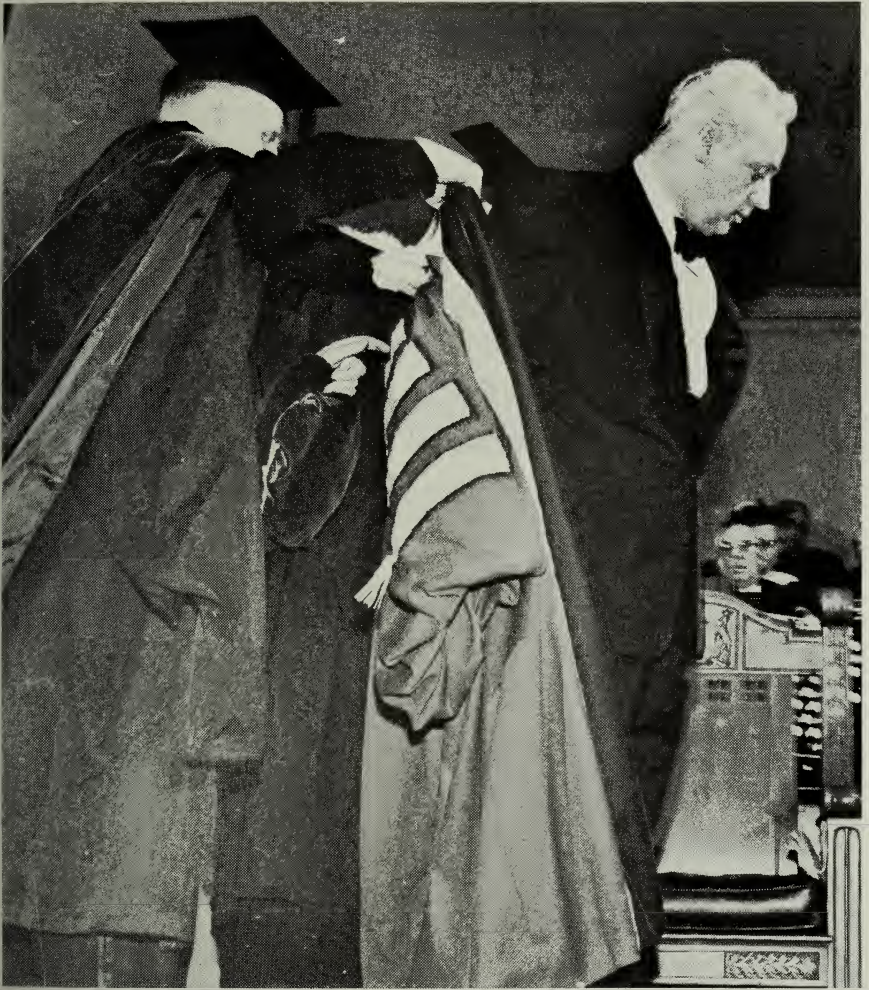
AT THE PALAIS DE NATIONS IN GENEVA, Dean F. Norman Hughes of the Faculty of Pharmacy, *right*, is seen with other members of a committee setting international standards for drug manufacture. The seven-man committee, part of the World Health Organization, met in December to consider revisions to the International Pharmacopoeia, a three-volume index to the world's most useful drugs. The physical description and chemical formula of each drug is given along with instructions on how to identify it and test its purity.



Above: In Morocco for the Red Cross, Dr. Charles M. Godfrey, Clinical Teacher in Rehabilitation Medicine, is showing Moroccans how to help 10,000 men, women and children paralyzed by poisonous cooking oil.

Below: In Tokyo on lecture tour, Dr. Arnold Walter, Director of the Faculty of Music, chats with two students. At the Imperial Palace he attended a concert in his honour by the court orchestra and dancers.





For another three years or longer, York University will continue as an affiliate of the University of Toronto. But its own tradition is forming: one day this photograph, taken in Convocation Hall January 24, 1961, will be a treasured relic. It shows the formal robing of Dr. Murray Ross as the first President and Vice-Chancellor of York University. He was sworn in by the Hon. Robert Winters, Chairman of his Board of Governors. "We are young, fresh, and flexible," said Dr. Ross in his installation address; "we have the enthusiasms and the strengths of youth; we have the opportunity to be creative, and to produce something that may be valuable."



"As one president to another. . ." The newly-installed President of York University with Dr. Claude Bissell, President of the University of Toronto and a key figure in York's genesis. Dr. Bissell has suggested that York may have 10,000 students on its 10th birthday. A mere seven years ago, 127 years after getting its charter, Toronto's enrolment was 11,127.



Among those who saw Dr. Ross installed were the Minister of Education, Hon. John Robarts; the Chief Justice, Hon. Dana Porter; the Chairman of University of Toronto Board of Governors, Lt.-Col. W. E. Phillips.

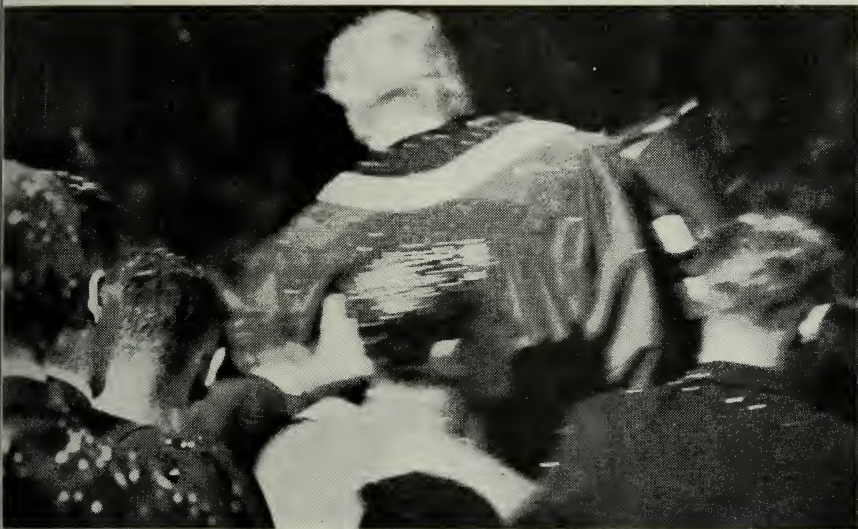


The President's wife, Dr. Janet Ross, a physician; his mother, Mrs. George Ross; daughter, Susan; son, Robert. *Top of page:* Dr. Ross is flanked by Premier Leslie Frost and Hon. Robert Winters, Chairman of his Board.



Reinforced by a choir and a band from the Faculty of Music, York's students, 75 strong, were equal to the occasion. Here is a parade up the aisle . . . a present for Dr. Ross. . . something eatable but elusive!





As Dr. Ross leaves the hall on the shoulders of the undergraduates, President Davidson Dunton of Carleton University retrieves his present and delivers it safely into the custody of York's Chairman of the Board.



Who didn't tell whom about Karl,
Ernest and one of the Jameses?

Autopsy on an old grad's grievance

by Northrop Frye

"The Private World of the Man with
a Book", by Harold Taylor, *Saturday
Review*, January 7, 1961, pp. 17-19.

DR. HAROLD TAYLOR, the retired president of Sarah Lawrence College, attacks in this article "the temptation of the educator" "to organize a body of knowledge for the student, leaving the student with nothing to do." Students are compelled to read "too little of too many things," "for purposes of taking examinations;" "we are asking not to know our students by what they say in writing or in speech, but to know whether or not they possess correct information;" we "take the young through an educational tour of the museums of literature, to inspire a dutiful and pious attitude to authors." He pleads for "the restoration of the personal element in modern life and in modern education," for "a sufficient number of intimate little bookshops and reading rooms" (the *Saturday Review* is



clearly aimed at the small-town-circulating-library trade), for asking students "to determine for themselves which books are great," for a sequence in education "different from conventional chronology," and for "some version of the tutorial system." The most effective forms of teaching are casual resulting from "leaving books around," for after all the student must "bring something of his own to the book," and "the writer must be allowed to stand on his own feet."

Admirable, if a trifle vague, and perhaps not very different from what anybody else would want. Education like religion, has developed a special style designed to be soothing and yet sound provocative. The thing that caught me in what Dr. Taylor calls "personal involvement with the writer" was his taking-off point. "I grew up i

Left: Harold Taylor, '35 Victoria, in Philosophy and English, when he became President of Sarah Lawrence College in 1945.

Right: Northrop Frye, '33 Victoria, in Philosophy and English, when he was installed as Principal of Victoria College in 1959.



a city," writes Dr. Taylor, "that was culturally sterile, in a College whose curriculum lacked intellectual vitality. There were no little magazines, no experimental theatres, no dance groups, no philosophical movements, no strong views held, no centers of new effort. Those of us who were happy to know about Auden, Spender, MacNeice, Isherwood, Malraux, Faulkner, Hemingway, Melville, James, Dostoevsky, Tolstoy, Dewey or Marx were quite rare, and we pursued our illicit reading without benefit of curriculum or librarians . . . We did the educational things required of us, because that was what the educators wanted. We did them well, won prizes for them. But our real lives were elsewhere." Dr. Taylor was '35 Victoria, in Philosophy and English. I was '33 Victoria, in Philosophy and English,

so we both had Pelham Edgar, Ned Pratt and John Robins in English, and G. S. Brett, Reid MacCallum and F. H. Anderson in philosophy. I entirely sympathize with Dr. Taylor's conception of education as something "in which all sham, pretense, and intellectual hypocrisy or name-dropping is stripped away." But my experience was bewilderingly different.

I had not been three weeks at college before John Robins, in the course of opening up a fascinating new world of ballad and popular poetry to his freshman class, told us about Hemingway and his brief career in Toronto, and had read us part of "The Killers." Next year came Pelham Edgar, ostensibly lecturing on Shakespeare but much more interested in the contemporary novel. From him, and from Robins, I heard about Faulkner, Mel-

ville and the great Russians, along with a lot of other things like "Ulysses," still banned in Canada. (I read "Ulysses" before most Canadian students did, because another Victoria professor smuggled in a copy for me from the States after the ban was lifted there.) But of course Pelham's favorite topic was Henry James, on whom he had written a pioneering study years before anyone else did. Perhaps, however, it is William James who is meant in Dr. Taylor's list: I learned about him, and Dewey, in the same year, from Brett's clinical analyses of modern philosophy. It is true that in a moment of irritation Brett referred to Dewey as a philosopher who had never grown up, but he still seemed happy to know about him. The third year brought Reid MacCallum on aesthetics, where the illustrations were so "far out," as we say now, that I found myself happy to know about atonal music and non-objective painting. In the fourth year there was Ned Pratt, who among other things was a walking encyclopaedia of contemporary poetry and drama.

In all this it is the casual suggestion, the tentative aside, the parenthesis, that I remember. I remember other things too. Brett treating me with extraordinary sympathy and kindness when I presented him with an essay written mostly out of Nietzsche's "Birth of Tragedy" (a parenthesis of Professor Anderson's) and out of Spengler (of whom Brett took a low view, but whose book Hart House Library had left around). Pelham Edgar, by no means the world's most

patient man, spending an hour and a half going through a blathering essay on Browning I had written and straightening out all my sentences. Reid MacCallum inviting students to his house, playing records for them, and giving them some notion of what to listen for in contemporary music. It was almost as though they wanted "to know our students by what they say in writing or in speech," and not simply "to know whether or not they possess correct information." They did the same for others, of course—the only favored students were those who asked for favors.

In those days, although about every third shop on Yonge street was an "intimate little bookshop," it was still the depression. There were many little magazines and attempts at experimental theatre (I can't answer for the dance groups, of which as I remember there were several), but they fought hard and died quickly—all but the unique and miraculous *Canadian Forum*, which a dozen university staff members, then as now, worked hard to keep going and up to standard. A few rumors also seeped through from other colleges, of how Wilson Knight at Trinity had revolutionized the study of Shakespeare, of how Gilbert Norwood had written of Classical drama with a sophisticated knowledge of the modern stage, of Charles Cochrane's mighty struggle with "Christianity and Classical Culture." As for philosophical movements, there was the time of breathless excitement when St. Michael's set up the Medieval Institute and the great Gilson was lectur-

ing in Convocation Hall. And the shy little man with uncertain English pointed out to me as Jacques Maritain also came, with his vast knowledge of contemporary French culture—not wholly wasted even in Toronto; a novel by Morley Callaghan, written about the same time, is dedicated to him.

Dr. Taylor lists Marx among the authors he was happy to know about, but there were many grimly determined to know and spread knowledge about him. Two ferocious Communist societies, one Stalinist, one Trotskyist, established themselves on campus, and attracted a great variety of students, from the most dedicated to the free-loaders who joined whichever group seemed to have the more acquiescent women. Earle Birney's "Down the Long Table" recaptures the feeling of those days, when there were rallies in Massey Hall for Spain addressed by Malraux. Even in the more bourgeois circles that I frequented it is not quite true that no strong views were held, considering how the impact of the Regina Manifesto and the setting up of a new Socialist party had shattered the quiet. A meeting of the Student Christian Movement was likely to start rows between fellow-travellers and others who, like one of my contemporaries, walked the streets till dawn after reading Tolstoy's "Resurrection" and, as he thought, discovering in it what Christianity meant. Hunger marches of unemployed on Ottawa, protests against the infamous Section 98 of the Criminal Code, bitter and violent debates in Hart House, where Warden Bickersteth kept an eagle eye

on professional organizers trying to crash their way in—these things all involved students, even involved them personally. I recently turned up a photograph clipped from the *Star* showing a classmate of mine being pulled at by police while she was kneeling beside another student trying to stanch the flow of blood from his head, which had been split open by a police club. All very misguided, perhaps: certainly I cannot regret that students are doing less of this kind of thing now; but still it was history in the making, and I am sorry that Dr. Taylor's real life at the time was elsewhere.

True, we had fixed courses to pass, examinations to write, and a curriculum based on the assumption that most great writers are both dead and as yet undiscovered by undergraduates. From Toronto I went on to Oxford, where, although there was "some version of the tutorial system," the curriculum was even more rigid (the English school stopped at the year 1830) and examinations even more regimented. Yet Oxford had heard of Auden and Spender and MacNeice. In fact, Oxford had educated them. I cannot help wondering whether examinations, organized curricula and prescribed courses may not have some connection with the power of producing the kind of books that are worth leaving around. Without these things, I suspect that Dr. Taylor's carefully unqualified precepts would lead us to a parochially middle-class cultural parasitism which merely lives off the fat of the genuine universities.

After directing the Faculty for 15 years the Dean moves to a new post on July 1

MacFarlane o

A YOUNG ENGINEERING student, thinking of changing to medicine, asked Dean J. A. MacFarlane what quality was most essential to a doctor.

"Integrity," said the Dean of Medicine, without hesitation.

A person with answers like this can sound sententious. But not the Dean. He is simply telling the truth.

"Mac is the most moral person I know", one of his best friends told me, adding, "He would be surprised if you told him."

After 15 years as the first full-time Dean of Medicine at University of Toronto, Dr. MacFarlane faces a new challenge July 1: he has been appointed Chairman of the University's newly-created Medical Sciences Advisory Council. Dr. John D. Hamilton, presently Professor and Head of the Department of Pathology, will succeed him as Dean.

Joseph Arthur MacFarlane—"Mac" to his wife and to most of his friends, "Arthur" to many of his relatives, "Joe" to his companions of World War

II—is an unusual mixture of talents and personality. A man whose beginnings were humble, he has risen to mingle with the mighty, yet loves both worlds and keeps a foot in each.

"He is a conservative with a small c and yet a rebel too," says Dr. R. F. Farquharson.

"He loves good food but he has a lingering feeling that he should be a bit of a Spartan," says another friend.

He enjoys mixing with leaders of thought, politics and society, yet no one is more outspoken for the rights of the farm boy, which he once was himself. Time after time, calling for additional help for students in medical courses, he has referred to young people in "the families of artisans or farmers" who must not be discouraged from enrolling because they are short of money.

He shows this unusual combination of interest in other fields, too, as though his love of life and humanity were so great that it extends even to things most people think incompatible.

Some doctors are agnostics. Not so Dr. MacFarlane. He has been a working Christian all his life and within the last few years he was confirmed into the Anglican church.

Mr. Kenyon, Writers of Canada, has written extensively about medicine in magazines and newspapers.

by Ronald Kenyon

Medicine

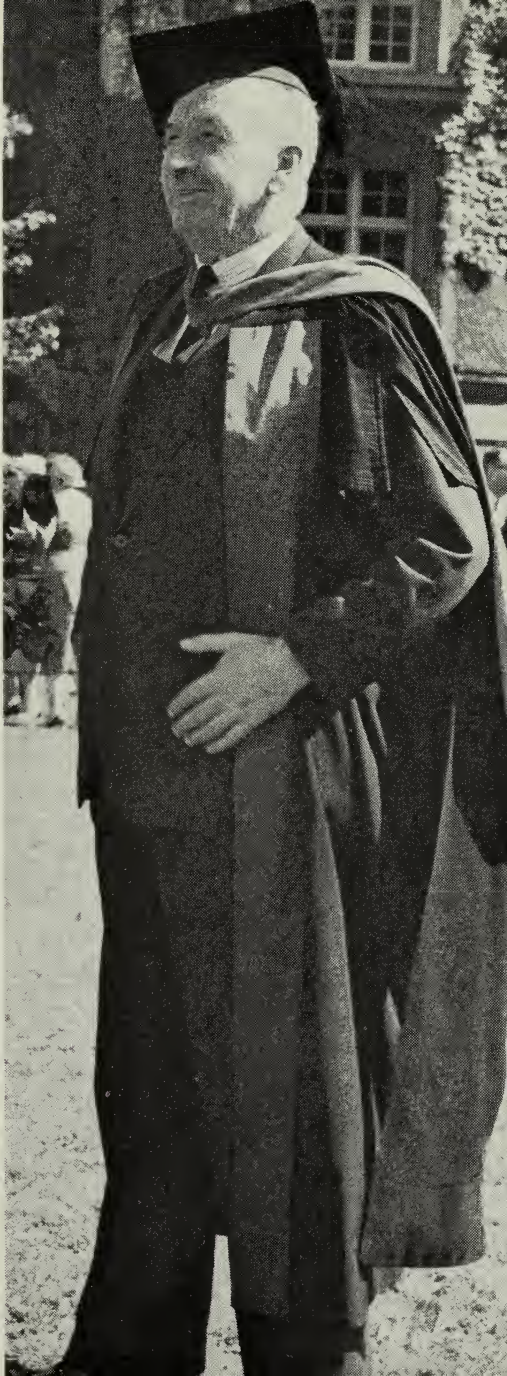
Dean Charles Fielding, of Trinity College, says of him: "He brings loyalty to his Christianity but he brings an analytical mind as well. He takes nothing for granted." Here again, Dean MacFarlane, with the questioning attitude of the scientist and, the faith of the believer, has the best of both worlds.

"In politics," says Dean C. A. Wright of Law, "he's the greatest mixture of hidebound Toryism and left-wing CCF-ism I know in the University."

The truth is, the Dean is more interested in people than "isms", taking the best of people and their ideas from apparently conflicting worlds. This is the unifying force in him.

He has expressed this preoccupation with people in a quotation from Hippocrates: "Where the love of mankind is, there also is the love of science."

He expressed a somewhat similar thought in different terms to a first-year medical banquet: "The central theme of medicine is 'man'; not man as you are presently seeing him in the anatomy laboratory, as you will see him in the post-mortem room . . . but man as you will meet him in the outpatient department . . . the wards of



the hospital . . . in his home as you visit him . . . at his work . . . at his play. . . . When the tawdry coverings of disability, depravity and disease are stripped away, you will find somewhere the germ of possible greatness, the touch of nobility that is man."

Underlying the deep seriousness of his life there is a capacity to be amusing of which he seems quite unaware.

On one occasion Dr. W. R. Feasbie began raising pigs as a hobby and mentioned to Dean MacFarlane that he was using a method of early weaning.

"It won't work," said the Dean firmly, adding that young pigs need their mothers to provide certain protective substances through their milk.

"He was right," Dr. Feasbie said later with a chuckle; "it didn't work."

There was nothing intentionally funny about this—yet the incongruity of a Dean of Medicine taking up the cudgels for young pigs might well make a man smile.

The Dean's interest in animal husbandry arises naturally. His early years were spent on a farm where he was born in Lanark County, Ontario. He came of Scottish background, of the Highlands on his grandfather's side, and the Lowlands, near Glasgow, on his mother's side. He is proud of this heritage.

At a very early age, he with his parents, two older brothers and three sisters, moved to virgin land in Saskatchewan. Someone in the family was reading Hiawatha, so the new town-site where they settled was named Nokomis.

Dr. MacFarlane says he left school at 14, but after three years of following a plow on the prairie decided "there must be something else to do" and went back. It took him just one year to win entrance to the University of Saskatchewan.

"I still look back to that first year in university as one of the most exciting of my life," he says. He took biology and then very nearly changed his course to law. But his teacher in biology was Dr. W. P. Thompson, later to become the president of the university. Dr. Thompson talked him out of the law and implanted the idea that he might become a doctor.

Before his course was ended, World War I broke out, and he won a Rhodes scholarship. In 1916, by arranging to take his final examinations early, he managed to go off to war before the technical end of term.

He went to war as a stretcher-bearer. Why?

"I suppose my mind was already turned toward being a doctor," says the Dean, "although I don't really remember."

"He has a tremendous sense of duty," says Dr. Harry Botterell, who served with him in World War II. "He probably did it for the same reason he became the Dean. In both cases he made personal sacrifices."

When the first war ended, Dr. MacFarlane enrolled in the medical course at University of Toronto, graduated, then took up his Rhodes scholarship at Oxford. But he found his mind was on the practice of medicine, so did not complete the scholarship. After intern-

ing in Britain, he took a surgery post at the Toronto General Hospital. He married Marguerite Walker, a nurse at the Hospital for Sick Children.

Between the wars, Dr. MacFarlane served with the militia and was among the first to go back into the service in 1939. He started out with the 15th General Hospital and later became Consultant in Surgery to the Canadian Army Overseas, with the rank of Brigadier. In this post he was responsible for the difficult task of placing top-flight Canadian surgeons in the jobs that would suit them best—difficult because he had to fit men who were definitely individualists into an Army organization that was based on regimentation.

He also was responsible for the adoption by Canada of a British idea for advance surgical units. These units were aboard trucks which drove right up to the firing line.

Dr. MacFarlane's interest in defence medical matters continued after the war. He became director of surgery at Christie Street Hospital and later at Sunnybrook hospital, and adviser to the Director General of Treatment Services of the Department of Veterans' Affairs. As chairman of the Canadian Forces Medical Council, he has been instrumental in bringing about the unification of Army, Air Force and Navy medical services.

While Dean MacFarlane jealously guards the profession he serves, he seems to reach out for social change with eager arms. He has said:

"Our Canadian medical schools do not fear any malign influence in

money that comes from provincial or federal governments. . . . Every time a Continental person comes to the school I feel apologetic on account of the fees we have to charge our students. England, Sweden, Russia and France and some other countries have scholarship and similar systems that are pretty good. It has always been said in Canada that a university education should improve your lot in life, and therefore you should pay for it yourself. But how about the son of the artisan or farmer, who can't pay for it?"

For his many works—and they are too many to recount here—he has received many honours. The O.B.E. was given him for his wartime work, the rank of Knight Commander of the Order of St. John of Jerusalem for his assistance to that organization and he has had honorary degrees from places as far apart as the United Kingdom and Brazil. He is a Fellow of the Royal College of Surgeons of Edinburgh and of Canada, and an Honorary Fellow of the Royal College of Surgeons of London, England.

To Dean MacFarlane the profession of medicine "happily combines scientific effort with the task of trying to understand the complexities of the human mind. It seems to us who have spent many years in the teaching and practice of medicine that it is a singularly satisfying, if somewhat demanding, discipline."

This is to a large extent another way of saying, as Hippocrates did: "Where the love of mankind is, there also is the love of science."

THE NEXT DEAN

DR. JOHN D. HAMILTON, Head of the Department of Pathology, will succeed Dr. J. A. MacFarlane as Dean of the Faculty of Medicine on July 1.

The appointment was made by the Board of Governors March 23. A few hours before the Board met, Dr. Claude Bissell told the Council of the Faculty of Medicine of his selection.

"This is the most important responsibility that I have had this year," he said. "The Faculty of Medicine is an illustrious part of the University with a reputation for excellence that exists wherever medicine is taught and practised. The selection of a dean has a significance far beyond our immediate ambience.

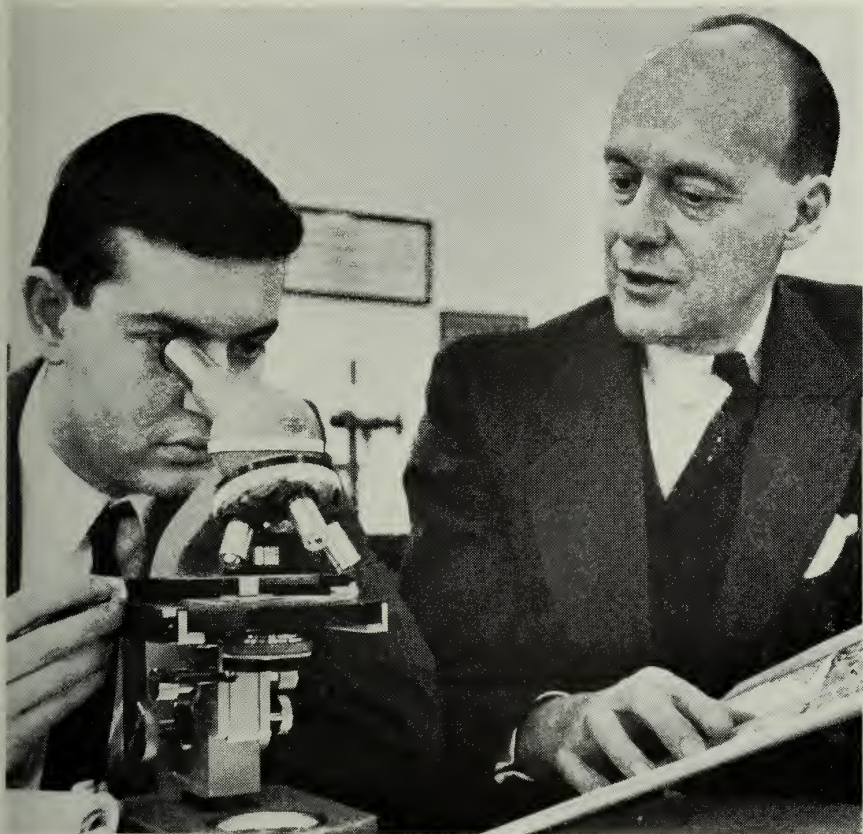
"I have devoted more time to this problem this year than I have to any other. I have, since early in the fall term, discussed the succession with the heads of all departments of the Faculty. In a sense my discussions began in a generalized and unofficial way some time before. It was only gradually that I could bring myself to realize that Dean MacFarlane was approaching the end of his term as Dean, since he acts with an *élan* and a vigour that few men twenty years his junior possess, and he demonstrates at all times such a firm grasp

of problems, both in the Faculty and in the University, that he immediately enlists the attention of his colleagues, from the President up.

"One dominant note emerged from my conversations on the Deanship: that Dr. MacFarlane's appointment in 1946 as the first full-time Dean of Medicine ushered in a new period of activity and development. I am happy to tell you that he will be returning to the University next year in a capacity that will enable him to place his great knowledge of the University at its service.

"I come now to the announcement of Dean MacFarlane's successor. I will preface this by saying that I have rarely been more confident of any appointment that I have taken to the Board of Governors. The new Dean commands your admiration and respect and the admiration and respect of his colleagues throughout the whole University. He will, I know, give firm, imaginative and sensitive direction to the affairs of this Faculty. The name that I shall take to the Board of Governors when it meets this afternoon is that of Dr. John Hamilton."

John Hamilton came to the University in 1929 from Revelstoke, B.C., where his father, a Varsity graduate



Dr. Hamilton and one of his students.

of '03, was general practitioner. By graduation he had decided to specialize in pathology: the study of the cause and course of disease. In 1937, he went to Cambridge University and from there to Johns Hopkins Hospital.

His wartime service was with the Royal Canadian Army Medical Corps and, ultimately, in research laboratories. He worked in England on studies of penicillin with Dr. A. L. Chute, now Professor of Paediatrics

at Toronto, and received considerable help from Sir Alexander Fleming, the discoverer. He spent 18 months in Italy, studying penicillin's effect on wounds.

Dr. Hamilton joined the McGill staff in 1945. The next year he became Professor and Head of the Department of Pathology at Queen's and, in 1951, when he was 39, moved to the same position at University of Toronto.

EIGHT OF 22 DIVISIONS

of the Faculty of Medicine are represented in this group photographed under the portrait of Joseph Lister, the surgeon-baron who founded modern antiseptic surgery. Dr. Hamilton, the Dean-Elect, is seated between Dr. Charles H. Best, Head of Physiology, and Dr. W. G. Bigelow, Associate Professor of Surgery. At the extreme right is Dr. Alfred J. Elliot, Head of Ophthalmology. Standing, from the left, are Dr. T. F. Nicholson, Associate Professor of Pathological Chemistry; Dr. P. H. Greedy, Head of Bacteriology; Dr. P. E. Ireland, Head of Oto-Laryngology; Dr. W. B. Garvock, Senior Fellow in Therapeutics; and Dr. D. E. Cannell, Head, Obstetrics & Gynaecology.







*"I never get bored with
undergraduates . . . There is
a continual stimulus"*

—Dr. John D. Hamilton, talking with Ian
Montagnes of the Department of Information.

LAST SPRING, the graduating class in Medicine presented Professor John D. Hamilton with The Shovel, their traditional gift to the year's outstanding teacher. "As an award it was somewhat double-edged", the Dean-Elect recalled a few weeks ago, "but I understand it really is a token of esteem and certainly I accepted it as such."

"I'm in the University primarily because I like teaching, and teaching undergraduates in particular", Dr. Hamilton continued. "I never get bored working with undergraduates. There is continual stimulus — a need to change and improve every year—and I derive a lot of pleasure from it."

"I've been teaching almost ever since I graduated from the Faculty of Medicine in 1935."

He has also been active in research all this time, particularly in the fields of cancer, arteriosclerosis, and disease of hypersensitivity like hay fever, asthma and rheumatism. In the past

two or three years his work in research has been largely administrative, and not only within the University.

With his University of Toronto appointment in 1951, he also became Pathologist-in-Chief of the Toronto General Hospital. He is consultant pathologist to the Hospital for Sick Children, Sunnybrook Hospital, Women's College Hospital and the Ontario Department of Health, and this year was appointed consulting pathologist and acting head of the division of pathology, Department of Laboratories, Toronto General Hospital.

He is chairman of the Ontario Heart Foundation's Medical Committee, which is concerned with awarding research funds to the universities; has been joint representative of the National Research Council on the National Cancer Institute since 1955; and for eight years was on the Medical Advisory Committee of the National Research Council. From 1952 to 1955 he was director of the Army Medical

Museum at Camp Borden, advising on the mounting and display of specimens collected since World War I.

Here are some of Dr. Hamilton's views about the future of medical science and medical education:

"There has been a tremendous upsurge in the development of medical research since World War II—an increase in knowledge without parallel in any other 15-year period. It has required a lot of money from many different sources. The bulk has had to come from government because of the amounts involved, but public subscription and private agencies have also played an important part.

"It's probable that development will be just as rapid in the next 15 years. We need new research staff badly, but there is only about enough money for the people we already have. Canada is far behind the United States and Great Britain in funds available for medical research; we haven't anything like 10 per cent of the money available in the United States though we have more than one-tenth their population.

"That is one problem—that we are continually in need of more money for research. Another is the probable effect on medical education of pre-paid medical care, which every major political party now supports. My concern, and that of everyone else in academic fields, is to maintain existing teaching facilities.

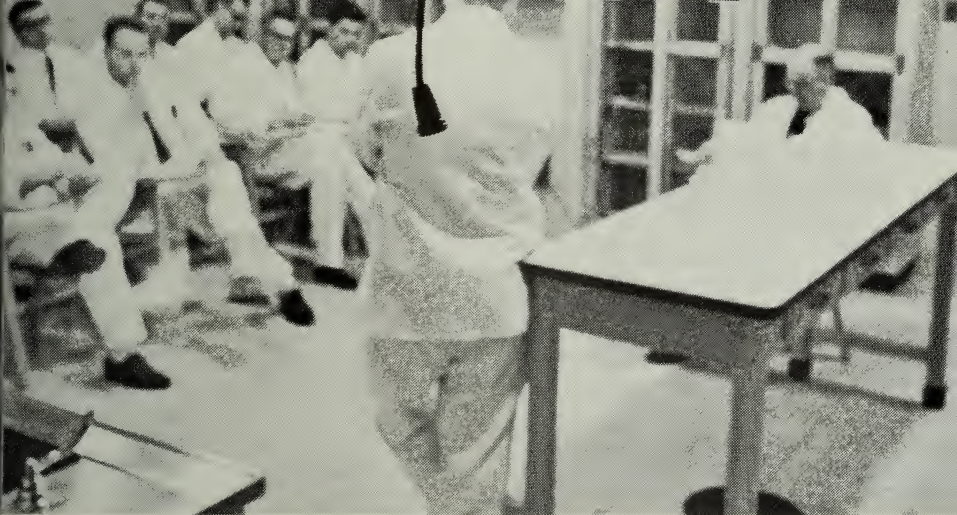
"What I mean is this: Medical students have always received much of their training in the public wards of the teaching hospitals, and these

wards have always been full because people know that in them highly-specialized staffs provide free of cost the best medical care in the world. Under pre-paid medical care, every patient presumably will be entitled to the doctor and hospital of his choice. The danger we foresee is that everyone then will become a private patient, and one of our most vital teaching facilities will disappear.

"The third problem on the new frontier lies in medical education itself. The volume of knowledge that has accumulated is so great that we cannot begin to teach medical students everything about disease. We have to decide where we are going, what we are trying to achieve, how best to provide undergraduates with the basic knowledge they require. Are we going to turn out graduates competent to be general practitioners? Or are we simply to turn out people with a basic training, who must then take further work to become general practitioners, specialists, teachers, research workers, and so on?

"In this school, we have always endeavoured to turn out doctors competent to treat disease. We have in fact gone far beyond that: we have turned out some of the best doctors in Canada—investigators, and teachers who are on the staffs of every Canadian medical school including the French-speaking ones. But we are not content to rest there. We feel our curriculum needs constant re-examination and re-assessment, and that the emphasis given different areas also needs continual study."

CLASS ROOM



Medicine at Toronto (III)

THE TEACHING HOSPITALS

Photography by Robert Lansdale — Text by Winogene Ferguson

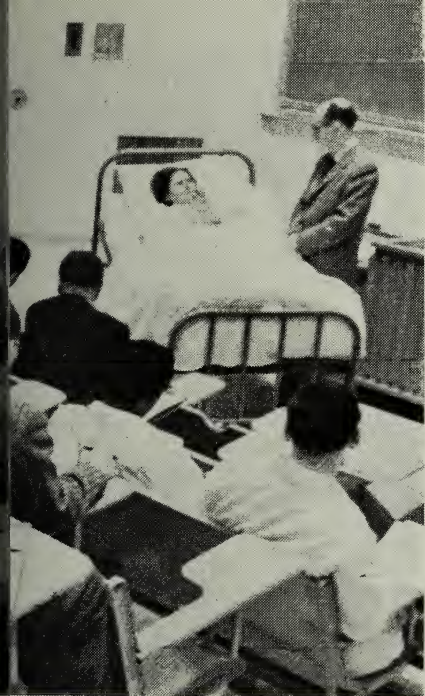
TEACHING HOSPITALS are indispensable in the training of physicians and surgeons. Within the teaching units of these hospitals, care of patients is the responsibility of teacher-physicians, appointed as teachers by a university and as physicians by the hospital. Patients are assigned, under supervision, to medical students, physicians in advanced training, and junior staff members in accordance with their capabilities.

Here begin nine pages of photographs taken unobtrusively with a small camera and available light in the Toronto General, one of the nine teaching hospitals for University of Toronto students. Four of the 22 divisions of the Faculty of Medicine are represented.

Mr. Lansdale is associated with Jack Marshall, Ltd. Mrs. Ferguson, Information Officer in the University's Department of Information, has edited the Staff Bulletin since 1947.

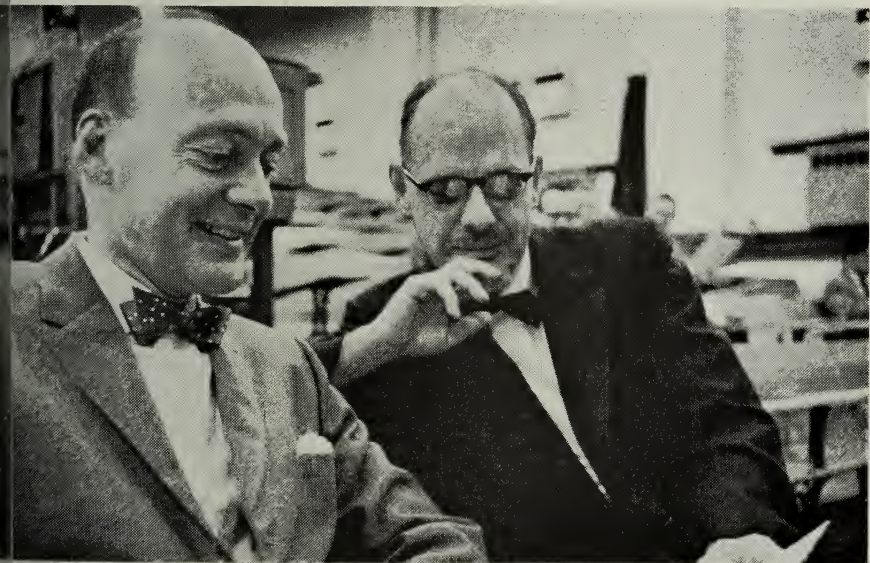


Left: In silhouette before the screen is Dr. John D. Hamilton discussing a highly magnified photograph of a section taken from a diseased spleen.



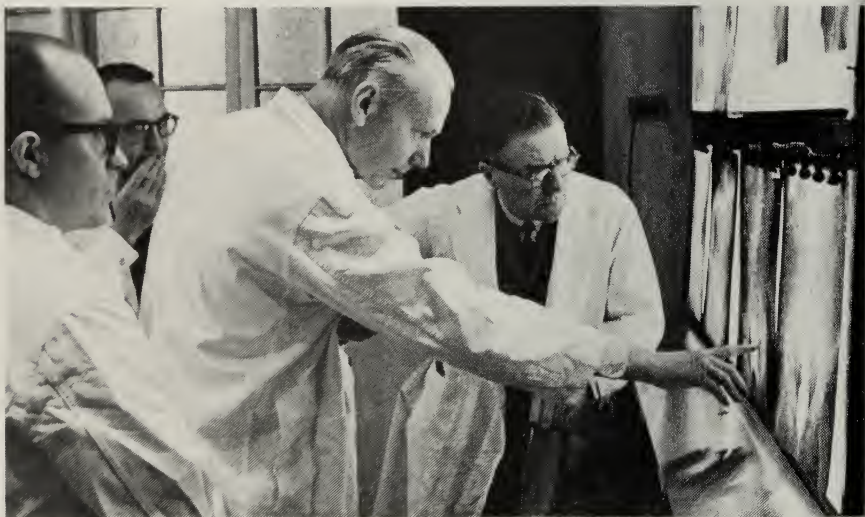
Left: Fifty times during their final year, students attend an 8 a.m. theatre clinic at Toronto General Hospital. Shown here, presenting a patient, is Dr. K. J. R. Wightman, Sir John and Lady Eaton Professor of Medicine and Head of the department at the University, and Physician-in-Chief at the hospital. Students participate actively in the examination and discussion at these conferences.

Below: Dr. Wightman, *right*, and Dr. Hamilton wait for another 8 a.m. class to assemble. This is the clinical-pathological conference which they conduct jointly once a week.





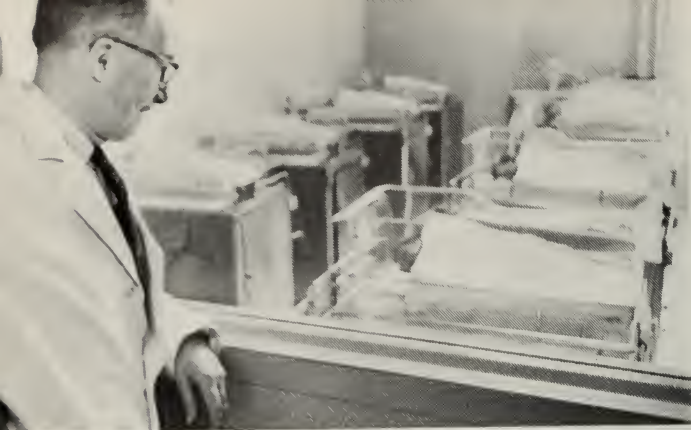
Dr. F. G. Kergin as students see him during rounds. Dr. Kergin is Head of the University's department of surgery and Surgeon-in-Chief at the hospital. Fourth year students are attached for eight weeks to a surgical service at the Toronto General, St. Michael's, or the Toronto Western hospital.



Above: Dr. J. R. Frank Mills, Associate Professor of Surgery, and Senior Surgeon at the hospital, discusses an X-ray negative with Dr. Kergin. The interested onlookers are a junior interne, *left*, and a clinical teacher.

Facing page: Dr. Kergin is second from the right. Surgeons-to-be join operating room teams when they are internes.

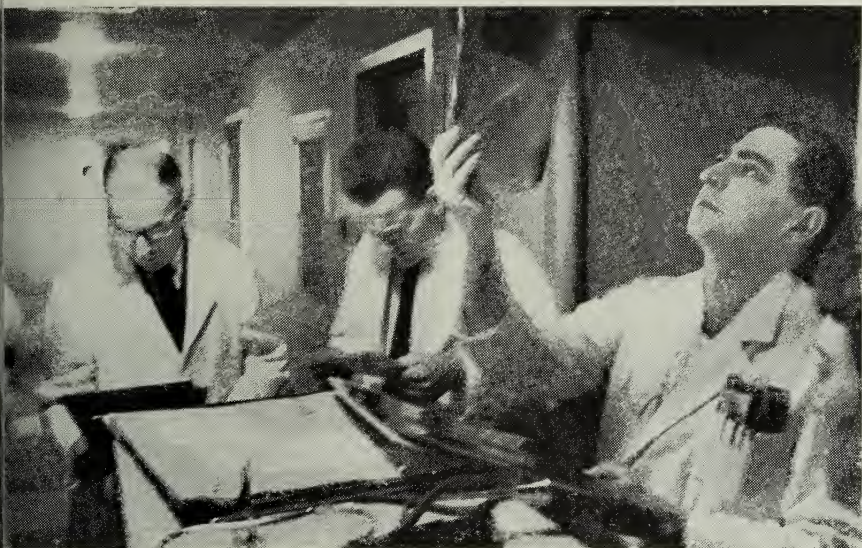




Dr. D. E. Cannell
pauses at the window
of a hospital nursery.
He is the Gordon C.
Leitch Professor of Ob-
stetrics & Gynaecology
and Head of the de-
partment and, at the
hospital, Obstetrician
& Gynaecologist-in-
Chief.



A Fellow in the Uni-
versity and Resident
Obstetrician at the
hospital, Dr. Ian Van
Praagh, is seen with
Dr. Cannell on one
of the twice-weekly
rounds for fourth-year
students in the service
at the hospital. All
other fourth-year stu-
dents come from their
hospitals to join in
grand rounds every
Saturday.



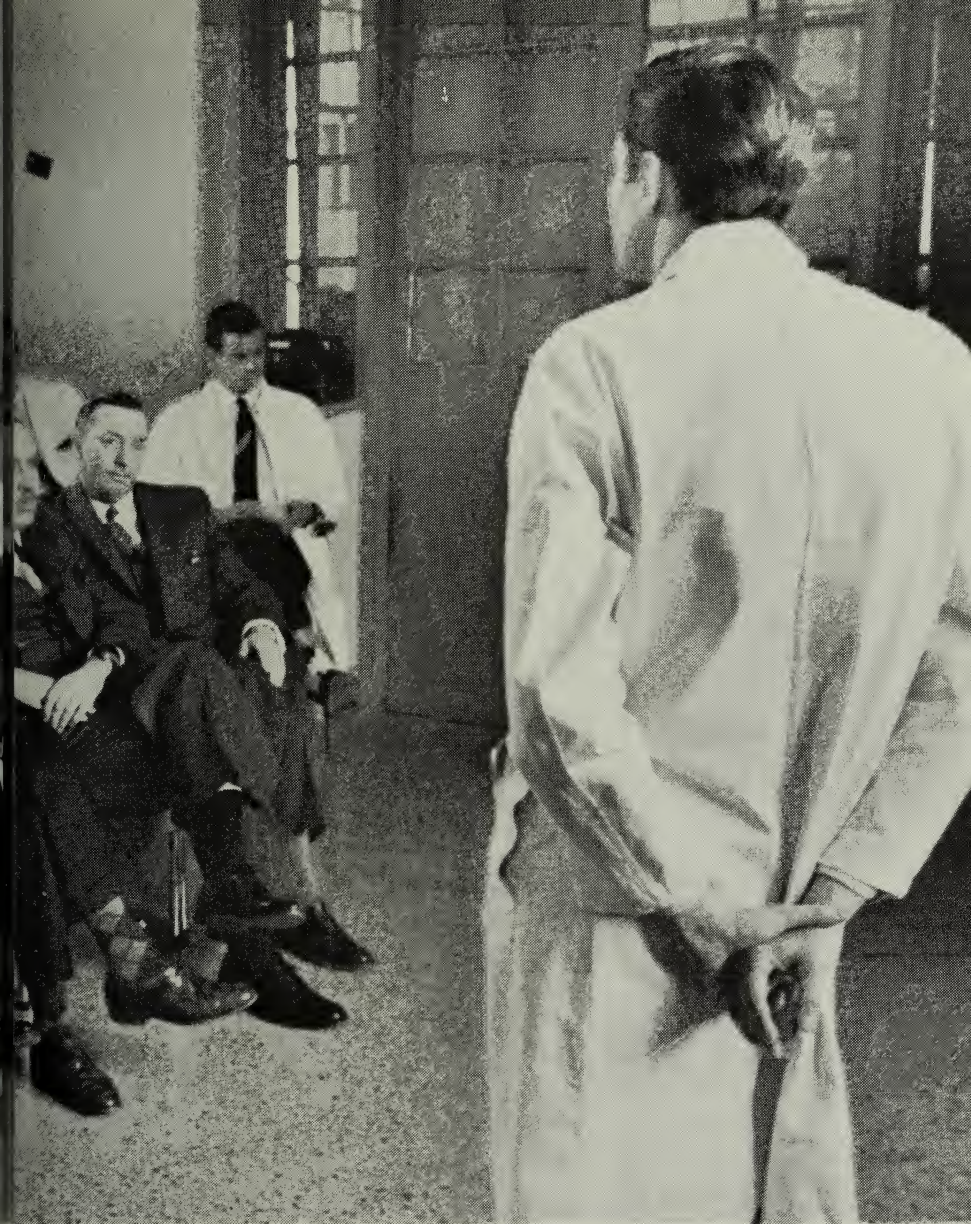
In a hospital corridor, preparing for rounds.



When rounds are over, a clinical conference is held in a hospital class room and the interesting cases are discussed with students. Every fourth-year student spends four weeks on obstetrical & gynaecological service in a hospital.



SIX YEARS OF INTENSIVE STUDY have prepared Charles F. Coates for this important moment. In his final medical year, he stands before an attentive and knowledgeable audience to present a problem case for general discussion. To his right,



out of camera range, lies the patient. Before him are Dr. K. J. R. Wightman, the hospital's physician-in-chief (white coat, front row) who sits with clinical teachers, other staff and the internes and students in Ward H.

MEDICAL RESEARCH AT THE UNIVERSITY OF TORONTO ranges through all divisions of the healing arts. Scores of projects are moving forward in the Faculty of Medicine and the Teaching Hospitals, in the Connaught Medical Research Laboratories and the Banting and Best Department of Medical Research, in the School of Nursing and the School of Hygiene, and in the Faculties of Dentistry and Pharmacy. Only occasionally do these explorations hit the headlines.

Since Insulin was discovered in a University of Toronto laboratory, 80,000 papers have been published about this hormone alone, each the result of scientific investigation somewhere in the world. Perhaps twenty or thirty have come to public notice.

At Toronto, medical research breaks water—like the tip of a submarine's snorkel tube—when someone gives a million dollars for medical research (this has happened twice in recent months) or when there is a major breakthrough in medicine or surgery. Headlines like "They're Freezing People to Life" (*Maclean's Magazine*) have appeared at intervals since, at the University of Toronto, hypothermia first was applied to heart surgery some years ago. Here is something to fire the imagination: when body temperatures are lowered 15 to 20 degrees, humans take on some of the characteristics of hibernating animals. Breathing and circulation slow down, operations once impossible become possible. Big gifts! — big discoveries! — medical research would appear to be a glamorous and rewarding business—well-fed heroes in white coats cleaving dragons labelled "Disease" and "Death" as thousands cheer.

Actually, research is hard, meticulous work, often dull and monotonous. The reward, if any, is seldom in coin of the realm. The scientist who supplies a research team with enlightened leadership may also have to raise the money to keep his experiments going. In some cases, he must conduct a private practice in order to pay the family grocery bills.

In this article, David Spurgeon, science reporter for *The Globe and Mail*, tells the story of the cardiovascular division of the Toronto General Hospital, one division of the University's Department of Surgery. This group's surgical study of the heart and blood vessels falls into two categories: experimental, which is carried on in the Banting Institute, and clinical, which is done on the wards and in the cardiovascular unit at the hospital. Each member of the team is active in both spheres. The division is headed by Dr. W. G. Bigelow, associate professor of surgery.

RESEARCH:

What the Bigelow Team Is Doing

SO MUCH has been accomplished in cardiovascular surgery in recent years that dangerous misconceptions have developed. It is not true that medical science "can do just about anything in this field." There are many heart and blood vessel conditions that cannot be treated surgically, and there are many others for which treatment must be improved. Thus the experimental research projects under study by members of the cardiovascular division may prove to be of the greatest importance to all of us. They include:

¶Development of new heart-lung pump techniques and study of their use for emergency treatment of heart attacks.

¶Deep hypothermia and hibernation.

¶Local freezing of the heart to allow more latitude in surgery;

¶Studies of skin graft reactions with

the aim of using grafts to replace sections of faulty arteries;

¶An inquiry into the unexplained clumping of red blood cells which develops sometimes in hypothermia (deep freeze) operations, and thus deprives organs of blood;

¶Deep body temperature combined with heart-lung pump to improve surgical technique;

¶Development of artificial valves for the heart.

¶Methods of bringing a new blood supply to heart muscle.

Experimental and clinical research in surgery can be compared with fundamental and applied research in other sciences. The fundamental work is vital: it has a very broad base and a wide range of application. Dr. Bigelow sums up the relationship this way: "In order to have a wide variety of basic research projects with a direct

application or relationship to clinical work, one must have the research directed by someone who is dealing with sick people and understands the problems."

Because of this broad base, experimental cardiovascular research calls for team work and a great variety of specialized knowledge and help from many fields: physiology, biochemistry, even physics. Dr. Bigelow has enlisted the aid of two of the top chemists at the National Research Council for his own main project, an inquiry into the mechanism of deep hypothermia and hibernation in animals. If his hopes are realized, this mechanism may one day be adapted for surgery on humans.

"In the hibernation project," says Dr. Bigelow, "we study about everything from the best way to feed a groundhog to the most advanced form of physical chemistry with its new spectrophotometric methods of analysis."

Other personnel involved in this project include a research fellow (an M.D.), two chemists with master's degrees, and a senior technician. And besides the two NRC chemists, there are on a part-time basis, a physical chemist (a Ph.D.) two farmers and a trapper. The project has its own groundhog farm.

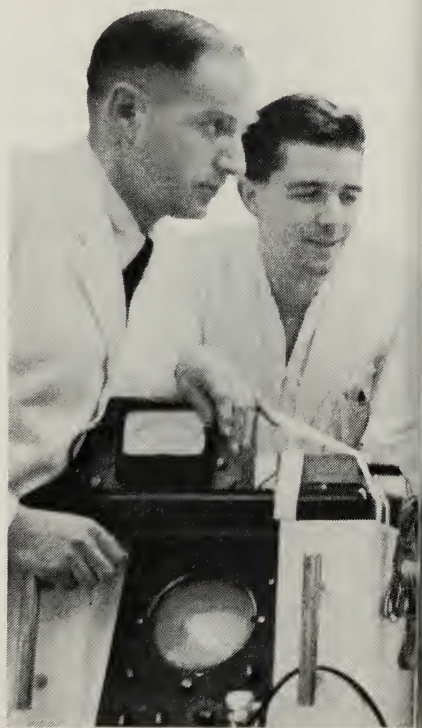
The heart-lung pump team includes a fellow (M.D.), a nurse and three technicians.

Right: Dr. W. G. Bigelow, third from left, and colleagues in hibernation research are grouped around an electro-cardiograph machine and a cooling bath, key pieces of equipment in this work.

Working as associates with Dr. Bigelow at the Banting are Hospital and University staff Doctors J. A. Key, R. O. Heimbecker, Wolf Saperstein, and R. A. Baird.

Another tenant of the team's five-room basement premises in the Banting is Dr. H. Basian, a clinical fellow studying the role of a hormone called aldosterone in hypertension.

"Full-time clinicians are extremely valuable to us," said Dr. Bigelow. "The clinician who relies on private practice for an income while he is trying to do basic research of an involved nature, must be really on fire with enthusiasm. The full-time man can



take on more complicated projects and supply the supervision and direction needed in a team effort."

Three of the team are considered full-time researchers and clinicians: Doctors Heimbecker, Saperstein and Baird. They are allowed a limited private practice to supplement their research income, but they spend the major part of their time in investigation, surgery and teaching. Dr. Bigelow and Dr. Key divide their time between these same three pursuits and in addition require time for private practice. Each receives a modest annual honorarium from the University for his work in the cardiovascular

division, but no payment from the hospital.

Most of the funds for the present, including salaries of the full-time people, come from "grants-in-aid." Because no one granting body is able to support all the work of the team, team members each year petition half a dozen foundations and agencies for money. Their supporters include the Ontario Heart Foundation, the Bickell Foundation, the J. S. McLean Foundation, Department of National Health and Welfare, NRC and DRB.

How does Dr. Bigelow feel about the time spent in form-filling, annual reporting, interviewing, and making



personal appearances at fund raising functions?

"If a team is producing good work, it can usually get support," he says; "and having to account to a review board for one's research projects and spending probably has some merit. However, life would be simpler and we could accomplish a great deal more if we did not have to make so many separate applications. Sometimes, too, it is difficult to judge what will be required for a specific project nine to eighteen months ahead."

The concept of using low body temperatures for heart surgery was developed at Toronto and this work has been in progress for 14 years. A long list of surgeons and scientists have contributed to this team effort which has been rewarded over the years by the University's Lister Prize and Peters Prize and the Gardner Foundation Award. In 1955, Dr. Bigelow was the first to receive the Surgical Medal of the International Society of Surgery in Copenhagen for this outstanding contribution to world surgery.

The information obtained from the basic studies in the Banting Institute is translated directly into surgical practice in the wards and in the cardiovascular unit at the hospital (and by the same doctors, with the assistance of fellows, residents, and junior surgical staff).

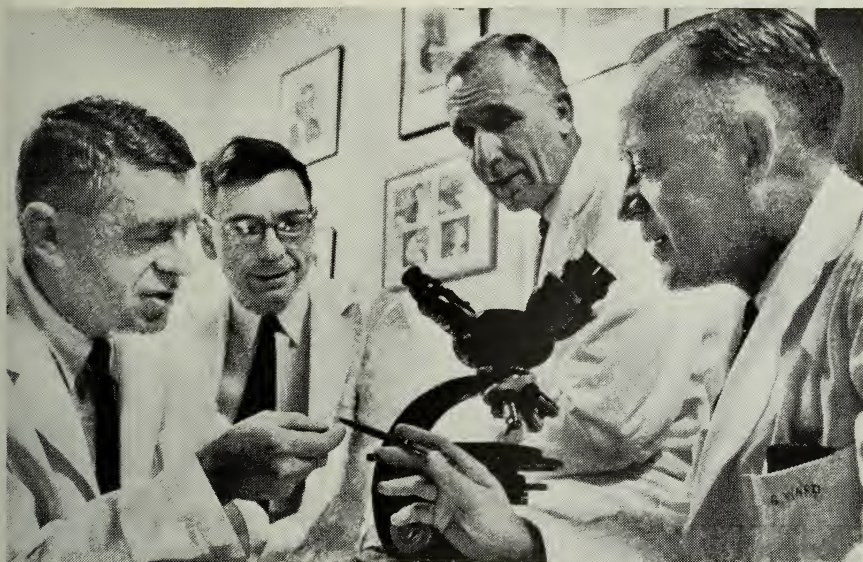
The types of cardiovascular operations being done vary from year to year as new techniques make them possible. Much time is spent in studying these patients — clinical research.

"In work such as this," says Dr. Bigelow, "one becomes absorbed with the interest and importance of advancing new and better methods of treatment. When should one apply a newly-developed surgical technique to a patient who is suffering from a progressive and fatal disease? It requires care and restraint not to become overly enthusiastic about new surgical methods — and yet this must be well balanced with courage to explore new avenues at the right time."

The lightning strikes twice

LAST OCTOBER, the Garfield Weston Charitable Foundation of Canada placed one million dollars at the disposal of the Banting and Best Department of Medical Research for medical research in the University of Toronto. Five months later, in March, an anonymous benefactor gave the University one million dollars to study disorders of the nervous system.

These magnificent gifts were in contrast to the way most medical and other explorations are financed. Usually a separate application for out-of-pocket expenses for each project is made to a foundation, corporation, individual, or government department or agency. In some cases, funds must be obtained from a number of sources



DR. J. OLSZEWSKI	DR. J. W. SCOTT	DR. E. H. BOTTERELL	DR. J. C. RICHARDSON
NEURO- PATHOLOGIST	NEURO- PHYSIOLOGIST	NEURO- SURGEON	NEUR- OLOGIST

for a single enterprise (see the preceding article). These grants cover materials, salaries of people hired for particular duties and sometimes equipment. Last year the University obtained \$2,840,076 in this way, about half being spent on medical projects.

Research ideas and leadership come from salaried members of the staff. The University also houses the research: excellent facilities are being built into the new science buildings.

To all of these procedures there are exceptions—none more welcome than a million dollars from the blue!

The first project under the fund for research into the nervous system will be an intensive team study of Parkinson's disease, sometimes called the

"shaking palsy"—a disabling, fairly common condition of unknown origin. A photograph of the four men who will lead the effort appears on this page. Each is a distinguished specialist and a member of the University staff. They will be reinforced by four younger staff members.

The first breakthrough in Parkinson's disease came only a few years ago when it was found that brain surgery could benefit some patients.

Fascinating as the avenue of surgical inquiry may appear, the other specialists on the team have equally fascinating questions before them and all four fields interlock. It would be hard to find a better argument for the team approach to medical research.



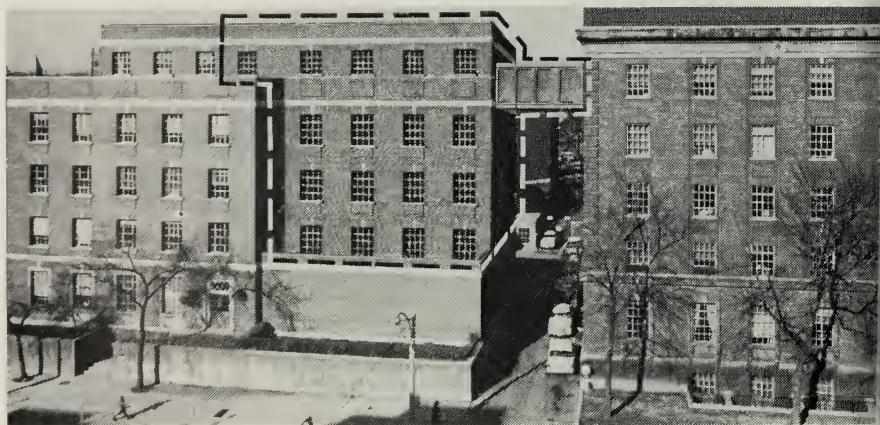
Dr. Frederick Banting about 1921.

The Banting

HOLD ON to your ideals. All dreamers are idealists; and dreams are the creative force behind every great achievement."

Someone—probably Fred Banting or Charles Best—clipped this counsel from a magazine forty years ago. Each word heavily under-scored, it is among the memorabilia of Insulin, an exhibit for the Banting and Best museum which is being established this year.

The museum will be five storeys above ground, within a bridge joining the Banting and the Charles H. Best Institutes on College street. Work has



Within the broken line a University draftsman has sketched the addition now under construction at the Charles H. Best Institute and the bridge which will link it to Banting Institute at right.

and Best Bridge

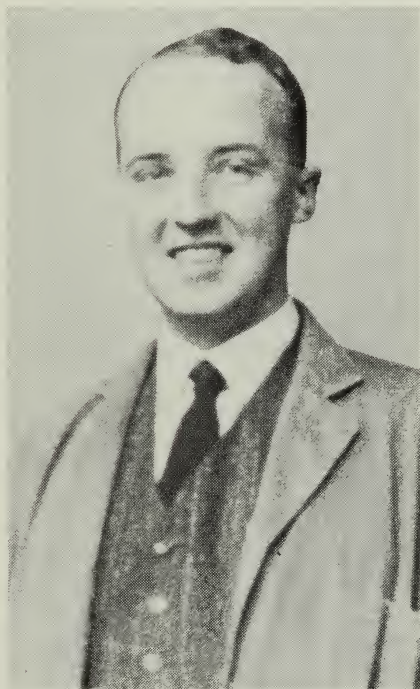
started on an expansion at the Best, financed by a grant from the Wellcome Trust of Britain of up to 70,000 pounds sterling which the University of Toronto will match. The museum-bridge will be the final item in this construction—a link between buildings bearing names which have been blessed by millions of diabetics.

The names of Banting and Best were first associated on May 17, 1921, the day Dr. Frederick Grant Banting set out to prove or disprove his theory that something to alleviate diabetes might be found in the pancreas of animals. He had needed a place to work: Professor J. J. R. Macleod lent him his own laboratory in the Medical Building at University of Toronto. He had needed an associate with knowledge of physiological and biochemical research procedures: Professor Macleod met that need, too, by assigning Charles Herbert Best, who had finished his final examinations in Physiology and Biochemistry the day before, and had volunteered for summer work without pay.

So began the association of Banting and Best—two among the thousands of dedicated researchers who would spend the summer of 1921 in stuffy labs scattered throughout the world and who, come autumn, might or

might not have something worth publishing in a medical journal.

"We were overwhelmed by a multitude of ideas which demanded investigation," Dr. Best has written, "but we persisted, until on 75 occasions, without any failures, we secured a material potent in lowering blood sugar. . . . No statistics were needed to establish



Charles H. Best about 1921.

that we could invariably extract an antidiabetic material from pancreas."

The news of Insulin was given to the University's Faculty of Medicine six months after the experiments began and, soon afterwards, exploded around the world. In 1921, before Insulin, most diabetics were doomed to suffering and a wasting death. Soon patients, many from distant places, began arriving at the University. Parents with diabetic children found their way right into the Banting and Best laboratory and came back day after day. As the pleas for Insulin increased, experienced investigators joined in the effort to produce it quickly.

In 1923, Dr. Banting shared a Nobel Prize with Professor Macleod, promptly dividing his half of the prize-money with his young collaborator. A less dramatic but more significant event of the same year was establishment at the University of Toronto of the Banting and Best Department of Medical Research. An annual grant of \$10,000 was voted for this purpose by the Ontario Legislature. The department—it was called a professorship originally—was headed by Dr. Banting with the rank of professor. Charles Best, who would not have his doctorate in medicine for another three years, was named research associate.

In 1941, Sir Frederick Banting (he had been knighted seven years before) was fatally hurt in an air crash while on a wartime mission and Dr. Best succeeded him as Director of the Banting and Best Department of Medical Research. The department

had grown rapidly in its first 18 years. Dr. Best's horizons had expanded, too: when Sir Frederick died he was still research associate in the Banting and Best department, was busy with projects for the Navy, held posts in the School of Hygiene and Connaught Medical Research Laboratories, and was then — as now — Professor and Head of the Department of Physiology in the Faculty of Medicine.

When the Banting Institute was opened in 1930, the Banting and Best Department of Medical Research moved in. When the Charles H. Best Institute was opened in 1953, the department moved there, but retained some space in the Banting. Now the two sections of the department and the buildings themselves will be joined by a museum-bridge filled with reminders of how it all began. There will be scrapbooks, photographs, medals, citations, laboratory apparatus, and the precious notebooks in which the successes and disappointments of the earliest experiments were meticulously recorded.

And there will be letters. Here is one of them, in the wobbly hand of a little girl (who must be close to fifty now):

Dear Dr. Banting,

The day you left I gathered some nerve together and gave myself the Insulin and am doing it ever since. I have been sugar free for the last five days. I am feeling great.

Your little friend,

Myra.

P.S.—I gained 2½ pounds last week.



Medicine at Toronto (VI)

His Excellency, Dr. Charles H. Best

IN NOVEMBER and December, 1960, Dr. Charles H. Best lectured in Portugal, Spain, Greece, Israel, Denmark and Sweden. He had no speaking engagements in Rome, but he stopped there briefly to pay his respects at the Pontifical Academy of Sciences (*see photograph above*).

The visit to the Academy, his first, was overdue. Five years before he had been elected one of its 57 members who are drawn from all branches of science throughout the world. Under an apostolic brief issued by Pope Pius XII, members of the Academy may use the title "Excellency", a designation which most Canadians associate only with governors-general and ambassadors.

Dr. Best's civil and general honours

range from Commander of the Order of the British Empire to Honorary Admiral of the Texas Navy. Here are some of the others:

Legion of Merit, United States; King Haakon VII Liberty Cross, Norway; Commander of the Order of the Crown, Belgium; King's Silver Jubilee Medal, 1935; Coronation Medal, 1953; H.M. Queen Elizabeth of the Belgians Gold Medal; Civic Award of Merit, City of Toronto; Canadian Red Cross Society Award of Merit; Navy League of Canada Award of Merit; Freedom of the City of Caracas, Venezuela; Honorary Citizen of the State of Maryland.

He has received honorary degrees from the Universities of Chicago, Paris, Cambridge, Amsterdam, Lou-



In Israel on his lecture tour last November and December, Dr. Best was entertained by the President, Mr. Itzhak Ben-Zvi, in his Jerusalem home.

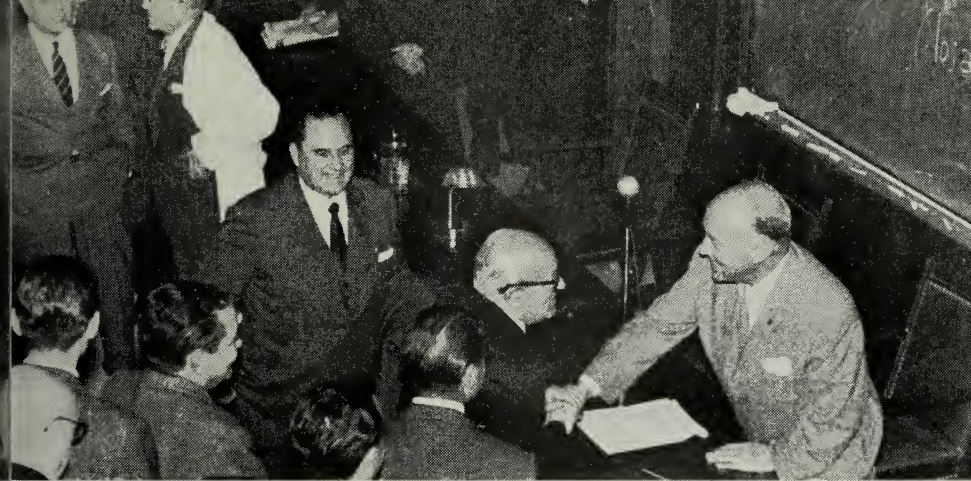
vain, Liege, Oxford, Chile, Uruguay, San Marcos (Peru), Melbourne, Maine, Venezuela, and Edinburgh — and from Dalhousie, Queen's, Laval and Northwestern.

At the University of Toronto he won the Reeve Prize, J. J. MacKenzie fellowship, and is the only person to have won both the Ellen Mickle and the Charles Mickle fellowships. In 1939, the Royal College of Physicians awarded Dr. Best its Baly Medal for distinguished service in Physiology. In 1959, he received the first Dale Medal given by the Society for Endocrinology. In the years between these two ceremonies in Britain, Dr. Best received medals from seven other

medical societies in Canada, the United States and the Netherlands.

He is a fellow or an honorary fellow of the Royal Society of London, Royal Society of Medicine, Royal College of Physicians (Edinburgh), Royal Society of Canada, Royal College of Physicians and Surgeons of Canada, American Association for the Advancement of Science, New York Academy of Medicine and the American College of Gastroenterology.

Dr. Best was a member of the National Research Council from 1947 to 1953, and has been a member of the Defence Research Board. He is now an active or honorary member of 48 scientific societies at home or abroad.



Here are two other mementos from Dr. Best's tour. *Top:* He is greeted by members of the University of Madrid Faculty of Medicine at the conclusion of his lecture there. *Below:* Sight-seeing in Portugal, he visited the new monument to Henry the Navigator which juts out over the Tagus like the prow of a ship.



In the School of Business

“WHEN IT’S AGREED?” asked the youthful company president. “We’ll raise our prices by as much as 45 per cent. Sales may drop a bit, but we should be able to absorb that easily in the extra mark-up.” His fellow executives nodded. Then they handed in their decisions to the professor.

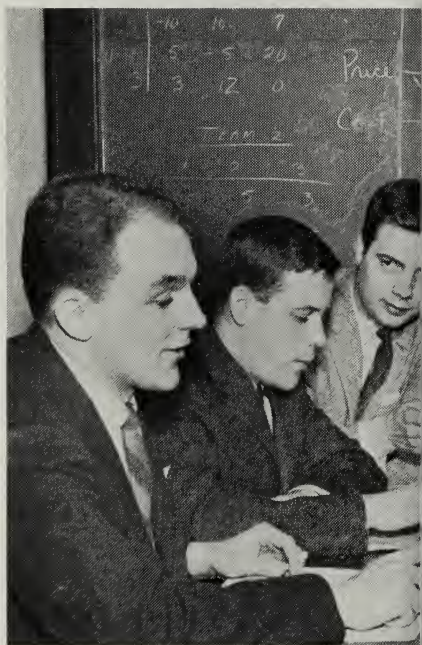
The next time they met, ruin stared them in the face. Sales had dropped far more than expected, in fact had almost disappeared in some areas. Net income had been cut in half, cash reserves had dropped \$2,500,000, and the company was caught with an end-of-the-year inventory worth nearly \$3,000,000. Conservative elements within the management board muttered gloomily about the risk-takers who had taken control.

Luckily, nobody lost any money from that mistake in judgment. The result was pure profit—in knowledge, not dollars. The whole action had taken place in the Management Decision-Making Laboratory, better known around the School of Business as “The Game.”

With the help of the University’s big electronic computer, the Game compresses three years of business competition and policy-making into nine hours. Through experience, it hammers home principles taught in

the classroom. That is why the School of Business, which changed its name last July from the Institute of Business Administration, considers the Game one of the most useful teaching tools in its two-year graduate course.

At the start of the Game last fall, the 19 second-year students formed into three competing companies manufacturing similar products. (The kind of product didn’t matter, and never was identified.) Each company began



They learn to play the game

with \$9,841,000 in cash, \$1,023,000 in inventory, and \$5,200,000 in plant investment. Each competed for sales in a home market, the home markets of the other two companies, and a fourth regional market in which none had a special advantage. Given basic production and marketing figures, and meeting separately, the three teams of young executives had to decide how to divide available cash among production, transportation, marketing, plant

investment and research and development, in order to maximize profits.

They had 45 minutes to plan a budget for the next three months of company life. Then decisions were collected and fed into the Computation Centre's IBM 650, which had already been given basic data about the Game and its economic climate, including an asymmetrical business cycle. In about 10 minutes, the computer digested the decisions, reported on resulting sales and income, deducted taxes, and turned out revised production and marketing figures. From this new material, the groups planned their next quarter's activity, and so on.

The teams met once a week for 12 weeks. At the end, after three years of simulated competition, Company No. 3 had decisively won. Its six members had built their assets to \$20,076,000, raised cash holdings to \$14,228,000 and shrunk inventory to \$327,000.

In a final review, the students agreed they had learned a lot.

"We kept too many records," reported one student.

"It was frightening to find we couldn't buy plant fast enough to turn out the goods to meet our orders," commented a second.

Said a third: "I never before had the same respect for inventory."





THE MOST RECENT OF THE HONOURS which have fallen to A. S. P. Woodhouse is one which comes to few men: the chance to inaugurate an annual series of lectures of major academic importance. He has been chosen first Weil Lecturer by the two-year-old Frank L. Weil Institute for Advanced Studies in Religion and the Humanities, a non-sectarian body named after a former Chairman of the Board of Hebrew Union College—Jewish Institute of Religion, Cincinnati. Each year, a distinguished scholar will give six lectures on some aspect of relations between religion and the humanities, an area the Institute's founders felt had been badly neglected. Professor Woodhouse's lectures, to be given in Cincinnati in January and February of 1962 and later to be published, will deal with religion in English poetry.

Above: Professor Woodhouse, *right*, is seen with Dr. Lawrence A. Kimpton, Chancellor of the University of Chicago.

“He burnished ideas till they shone like revealed truth...”

by Roy Daniells

LIFE IN THE UNIVERSITIES, we are told, is becoming ever more mechanized and the mighty individualists who once peopled our campuses are departing. It is undeniable that academic people become daily busier and more business like. But as we recall that “there were giants on earth in those days”, we may take comfort that some of them still stride among us and not the least of these is Professor A. S. P. Woodhouse of University College in the University of Toronto.

It is now some twenty years since I left the community of Queen’s Park for points west. At that moment some change in office accommodation was being made and it was possible to annex a reproduction of Reynolds’ portrait of Samuel Johnson and hang it over the fireplace before which the

Woodhouse desk was installed. One departed feeling that a symbolic act had been accomplished. The old-fashioned sepia reproduction still hangs in all its iconographical simplicity in the same place and the resemblance between the archetype and the contemporary scholar has become more and more apparent with the passing years.

Arthur Sutherland Piggott Woodhouse was born in 1895 in Port Hope. He took his B.A. at the University of Toronto in 1919 and his A.M. at Harvard in 1923. In the same year he joined the staff of the University of Manitoba. In 1929 President Cody brought him to the English Department of University College. He has been head of that department since 1945 and of English Graduate Studies in the University since 1948. Among the honours that learned bodies have bestowed upon him is an LL.D. degree

Roy Daniells is Professor of English at the University of British Columbia.

from my own university, many of whose students in English have reached the graduate school in Toronto and have listened to him mediating the mysteries of Milton's thought and of the nature of Romanticism.

His services to the *University of Toronto Quarterly* have been almost continuous since its inception. He has served on the executives of the Modern Language Association and the International Association of Professors of English. He has been a pillar of the Humanities Research Council of Canada from its first foundation. In 1942 he was elected a fellow of the Royal Society of Canada and in the same year was awarded a Guggenheim Fellowship. With Watson Kirkconnell he produced in 1947 "The Humanities in Canada," an important survey of the field. He is the author of "Puritanism and Libetry," an editorial contributor to the forthcoming variorum commentary on the Columbia edition of Milton's works, and the begetter of numerous articles and reviews.

This skeleton outline, however, fails to project the solid substance of the man and his achievement.

In the early days of the *Quarterly*, when G. S. Brett the founding editor had resigned to become dean of graduate studies, it fell to Woodhouse and the late E. K. Brown to work out an editorial policy in harmony with Brett's first intention. Their plan was bold and simple. With a considerable disregard for the local and topical, they kept to the main highway of Western culture and aimed not speci-

fically at the reader belonging to their own campus or community but at the humanist in the world at large. This did not make for immediate popularity or sudden wide circulation, but it did mean that the *Quarterly* took its place without faltering among the reputable critical journals of the English speaking world, a place which for the past thirty years it has never failed to maintain. Woodhouse has served across the decades as associate editor, co-editor, chief editor, and chairman first of the editorial committee then of the advisory board.

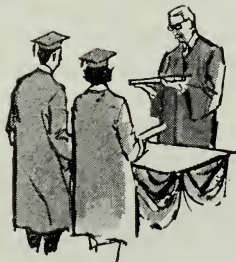
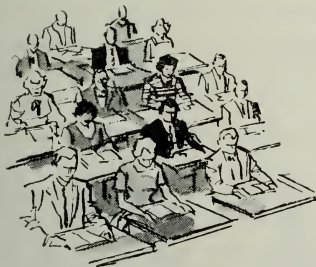
Upon the School of English Graduate Studies, in the early stages of its growth, Woodhouse's influence was decisive. His robust and objective conservatism, devoid of any mystique, was expressed in a constant concern with the history of ideas, a legacy from his old Harvard professor, Irving Babbitt. No student who sat under him could fail to be strongly attracted (or in the odd instance strongly repelled) by the field of force set up by this inquiry. Woodhouse's chosen author is Milton and a study of Milton's thought has led to a passionate exposition of the nature of Christian Liberty and of the relation between Nature and Grace. Like Samuel Johnson, he may pursue his own line and subdue his hearer to the unity of his own view, but like Johnson he has seldom failed to produce an enormously vigorous and operative concept. To many of us his classes have been classics of their kind. He never preached. He never proselytized. But he made ideas more real than facts and he

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The leaflets extend beyond the realm of formal education. 'How to Get More Fun out of School' and 'Sports-Tips for Teen-Agers' should appeal to the youngsters. 'Fit! Fat! Fad!' stresses the importance of physical fitness for the 12-20 age group and suggests various exercises to help them attain this ideal. For those who wish to make the most of their retirement years, 'Educating Yourself for Retirement' and 'New Horizons for Leisure Time' should prove helpful.

All these leaflets and others in the series are offered free of charge and without obligation. Bulk supplies are available for schools and other organizations. For a complete set, write: *Sun Life of Canada, Values in Education, Sun Life Building, Montreal.*



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burnished ideas until they shone like revealed truth. Without departing from the method of objective criticism or injecting his personal convictions as such, he contrived to body forth a consistent view of life and a consistent evaluation of human endeavour. Above all it is consistency that has counted. The determination to keep all matters — religious, political empirical — on the plane of intellect has imposed its own strains but it has brought the reward of an integrated personality and a stable outlook upon the world. English studies, as Woodhouse has conceived and exemplified them, have become a focus of reference and a centre of reassurance to numerous undergraduate minds. In the classroom the unspoken postulates have become suddenly visible: that ideas are imperishable and belong to the eternal world of Plato and the Gospels; that to grasp the ideas of great minds and perceive that they form coherent frames of reference is among the highest activities of man; that intellectual labour is valuable in its own right and can absorb our personal idiosyncrasies and vicissitudes.

The Humanities Research Council of Canada, of which Woodhouse was one of the founders and of which he has been a recurring member ever since, has proved a fertile field for the exercise of his energies. He engaged in a survey of the Humanities in Western Canada. He fought for funds to establish a programme of scholarships and for the exploration and development of new fields. In spite of the generosity of the American

Foundations, the means at the disposal of the Council were seldom adequate, sometimes precarious to the point of their not knowing where money for the next scholarship was coming from. But the work went on and the goal, now put into new focus by the creation of the Canada Council, was never lost sight of.

This struggle to maintain the life of ideas carries with it a massive disregard of the inessential. But just when the utter singleness of purpose is most in evidence, there will be a sudden pause and a gesture of recognition for the other half of the world. There once existed near the British Museum a tea shop called the Plane Tree with a small garden where scholars might relax from their labours in the library. Here over a cup of Samuel Johnson's favourite beverage there was delivered to a certain graduate student the considered Woodhouse opinion. "You know, Miss Winspear, I sometimes feel that every hour I spend in London not in the Reading Room is in a sense wasted." The reply came, "You know, Professor Woodhouse, I sometimes feel that every hour I spend in London *in* the Reading Room is in a sense wasted." The sun shone through the plane tree and the taxis went scurrying by outside. "I think, Miss Winspear, I see what you mean."

It is in the moments when a little ease is interposed in the round of administrative and academic labour that the fund of Woodhouse stories opens out and with the gaiety of a child there will be retailed a sequence

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of scenes, recent or long past, from the great tragi-comedy called academic life. There is a keen sense of the ridiculous but no malice. Often these stories have a note of triumph audible in their depths: in spite of all folly and stupidity, something was done, some scholar helped into a clear path, some good cause was supported. Occasionally such moments have led, unplanned, into hours of inimitable conversation which long afterwards fortify one in moments of stress. Life, these conversations imply, is a struggle, but victory can be gained. "I will not cease from mental fight. . . ."

My own instinctive thought of Woodhouse still centres upon a June morning when, returning from a short stay on the continent, I made my way to the British Museum and found him in the North Library. After a subdued welcome imposed by the hush of that holy of holies, he expressed a kindly surprise that he had not found me already at work when he arrived from Canada. Then his eye gleamed with the joy of the chase. His hand, holding a small calf-bound volume, shook with excitement. "Saurat is all wrong!" he exclaimed in a whisper. It was a copy of Fludd's "Mosaical Philosophy," a work that has seldom inspired passion. But to him the clearing of Milton from some aspersion, the vindication of that other apostle of intellectual liberty and intellectual labour could never be less than a matter of passionate concern.

In the end it is always Dr. Johnson one comes back to as the analogue of Dr. Woodhouse. There are what the Reynolds portrait so richly reveals, the same evidences of inner struggle resolved by force of will and dedication to a task; the same robustness of intellect with a use of common sense and downright reason; the same kindness half hidden by a formal manner of speech; the same indefatigableness in intellectual pursuits and capacity for mental exertions. And the same certainty that one can always find him in the same place.

In one respect only does the resemblance between the two learned doctors fail. Johnson was not always remarkable for filial affection. Woodhouse's relation to his mother, now past her ninetieth year, has been to all those privileged to enter his house, an example of the reciprocal grace and beauty to which human relations can arrive.

During this current academic year Dr. Woodhouse is the holder of a Canada Council special senior award which permits him to pursue to completion his work on Milton. And it is now announced that a further signal honour is to be his. The newly created Weil Foundation has invited him to deliver in Cinicinnati the first set of lectures, in what will be a series given annually, on problems of religion and of ethics. It is a gesture of recognition in which all who belong to the University of Toronto may well feel pride.

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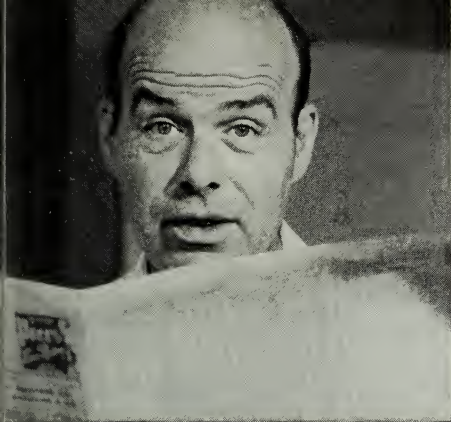
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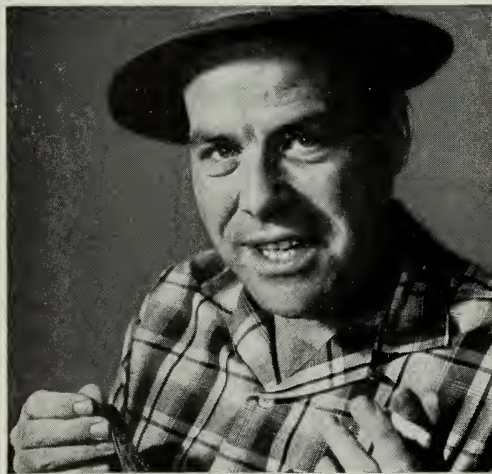
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- 1892 Rev. Gilbert Agar (V), Dec. 23.
 1893 E. B. Hutcherson (V), Jan. 9.
 1895 Rachel W. Chase (UC), Nov. 19.
 W. A. Kirkwood (UC), Oct. 15.
 1896 Maud C. Edgar (UC), Oct. 12.
 1897 J. A. Butler (M), Dec. 10.
 1899 H. C. Griffith (T), Dec. 9.
 1900 H. W. Saunders (S), Oct. 24.
 1901 Henry P. Rust (S), Oct. 31.
 1902 F. L. Langmuir (S), Nov. 10.
 Harris Logan (M), Nov. 14.
 1903 W. C. Arnold (M), Dec. 6.
 H. M. Darling (UC), Oct. 17.
 1904 M. S. Hawkins (D), Dec. 28.
 H. W. Mitchell (P), Oct. 13.
 1905 H. B. Coleman (M), Oct. 8.
 1906 W. A. M. Cook (S), Oct. 26.
 W. W. Livingston (L), Oct. 9.
 1907 Edward Cavell (S), Dec. 19.
 1908 C. W. Hookway (S), Jan. 14.
 W. G. Shepherd (M), Nov. 3.
 Ronald H. Starr (S), Nov. 11.
 1909 Tracey E. Freeman (S), Nov. 6.
 1910 E. M. Horton (M), Sept. 18.
 James T. Thomas (M), Nov. 20.
 G. Ross Workman (S), Dec. 3.
 G. H. Yule (UC), Oct. 17.
 1911 Margaret Cordingley (UC),
 Feb. 12.
 David E. Dean (V), Oct. 23.
 Layton P. Yorke (S), Oct. 6.
 1912 F. M. MacDonald (S), Dec. 21.
 1913 R. H. Clemens (Ag), Jan. 20.
 G. C. Graham (M), Nov. 13.
 Bessie McCamus (V), Dec. 1.
 1914 R. C. R. Bell (P), Oct. 2.
 F. L. Eberhart (M), Nov. 4.
 W. M. Houghton (V), Oct. 29.
 Mrs. Cyril H. S. John (née Eleanor
 B. Turnbull) (UC), Dec. 1.
 1916 J. H. Eastwood (S), Jan. 14.
 Walter T. Graham (UC), Oct. 25.
 1917 H. M. Katzenmeier (D), Nov. 3.
 1918 Flossie Galbraith (UC), Dec. 5.
 1919 Grace A. Brodie (UC), Sept. 12.
 1920 C. V. Mulligan (M), Oct. 30.
 1921 W. H. Carlton (TC, Ed '27),
 Nov. 30.
 F. M. Graham (D), Dec. 14.
 T. A. Robinson (D), Dec. 24.
 H. L. Windrim (D), Dec. 16.
 1922 W. L. Alexander (P), Nov. 22.
 J. R. Fenwick (S), Dec. 5.
 Dermot Rouse (D), Oct. 31.
 1923 Francis C. Ball (S), Jan. 15.
 V. N. Bruce (S), Dec. 9.
 A. J. Couch (M), Oct. 5.
 F. A. Ellis (S), Oct. 31.
 John A. Gillies (D), Nov. 2.
 1924 L. M. Gray (D), Nov. 20.
 Harold Turner (S), Oct. 24.
 1925 Leroy D. Ahara (S), Jan. 18.
 E. P. Garbutt (TC), Dec. 12.
 W. B. Greenwood (F), Dec. 28.
 R. D. McNally (D), Dec. 21.
 1926 W. J. Dunlop (Ed), Feb. 2.
 R. H. Gardner (P), Dec. 16.
 L. G. McKerracher (Ed), Dec. 8.
 Rev. B. S. Millar (UC), Oct. 15.
 1927 W. A. Higgins (F), Jan. 15.
 1928 J. T. O'Gorman (M), Oct. 23.
 Catherine V. Scholes (UC), Dec. 4.
 1929 C. E. Hookings (M), Nov. 28.
 1930 M. V. Cosentino (D), Dec. 16.
 Rev. B. R. English (UC), Nov. 10.
 R. A. Hattin (TC), Oct. 20.
 Aubrey H. Perry (S), Oct. 11.
 1931 I. L. Hyman (D), Oct. 21.
 L. M. Keith (TC), Dec. 4.
 W. H. MacArtney (S), Nov. 1.
 1934 O. L. Bailey (M), Nov. 19.
 Mrs. A. H. Bright (née Phyllis W.
 Kimber) (UC), Oct. 8.
 Mrs. R. E. S. Green (née Betty E. L.
 Fisher) (HS), Nov. 2.
 1935 Frank E. Hashmall (P), Nov. 9.
 Louis Kagan (M), Dec. 15.
 1936 William G. Keys (M), Dec. 25.
 1937 F. H. Buck (T), Dec. 10.
 Raymond C. Smith (V, M '40),
 Nov. 22.
 1938 Mrs. J. A. Edds (née Marion J.
 MacNaughton) (V), Oct. 17.
 1942 Morris Schnittman (M), Nov. 4.
 1943 R. G. Schwalm (D), Jan. 10.
 1951 L. D. McMulklin (S), Sept. 29.
 1952 R. J. Lang (TC, Ed '55), Dec. 3.
 1954 D. V. Charters (T), Dec. 1.
 F. S. Myers (T), Nov. 13.
 1959 Donald W. Ash (A), Oct. 16.
 M. H. Grossman (UC), Nov. 6.
 1960 A. L. Landsberg (S), Oct. 19.



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The President from Page 17

created supercentres of higher education, with budgets of such glistening proportions that university administrators are inspired to re-examine their deficits hopefully. The educational budgets of large corporations often rival those of good-sized colleges, and the expenditures per student are two and a half or three times the national average for colleges and universities.

In addition to the training seminars, the large corporations—at least, the American ones—have poured billions into research—an activity which governments also have pursued. Such research bodies are now the major consumers of our Ph.D.'s in the pure sciences, and often are our most formidable competitors both for staff and for kudos. Sometimes a gentlemanly alliance exists between the governmental and the business institute of research and the university, although with a feeling on the university side of inferiority.

The movement of business into higher education is the most formidable part of what might be described as the popularization of higher education. Any city university knows about the demands that are being made by the part-time night student, sometimes studying for a degree or a certificate, usually following knowledge for its own sake with a Tennysonian dedication. This process has been accelerated by television, which can carry the classroom, once a closed arcanum, into a million living rooms.

Although the opening up of these new areas has effectively destroyed

the monopoly of the university in higher education, it has not thereby removed its centrality. The business corporation may maintain expensive management training courses under its own jurisdiction, but it hankers after the peace and tradition of the campus. The research institute, whether business or government controlled, may have enormous resources, but it can still never expect to do the kind of durable, fundamental work that is carried on in the laboratories of the university. The potentates of television are discovering that professors are natural performers who, unwittingly, have devoted their lives to a preparation for a television career. The simplest demonstration of the continued centrality of the university is the great increase in the full-time student body, which has been referred to so frequently and in such great detail that I need not document it.

While this vertical movement was taking place, a horizontal movement was under way. Higher education had become a tough strand binding together the national life. It was also becoming a hopeful strand in the creation of an international community. Physical mobility was accompanied by intellectual mobility. The movement of ideas and information was seen to be as important as the movement of goods. That is why universities have become instruments of international policy. The present international conflict is in large part a battle between information systems.

In order to take their place on this broadened international scene, univer-



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sities moved into areas that previously they neglected or slighted, and belatedly took up the study of the ancient and powerful civilizations that threatened Western hegemony. It is the battle of what I have described as information systems that has given point to the international obligations of universities, and it is obviously this, more than any disinterested concern for the welfare of underdeveloped nations, that has inspired the rash of international exchange scholarships.

Within the universities themselves, there is a consciousness that this is not the highest goal, and that university studies must not be looked upon simply as the I-branch of a massive military preparation. Indeed, the very approach to another culture in these manipulative terms leads to a loss of perspective and to distortion, and prevents the scholar from attaining that disinterested sympathy by which alone he can reach real comprehension of a culture not his own. Universities can play a great role here in arousing a consciousness of living in a world of diverse cultures that increasingly impinge upon each other, instead of in a world that is deeply and irrevocably divided. Oppenheimer refers to international scholarship as the warp of community, as the nations are the woof. These communities, he goes on, "are the human counterpart and the basis of the international institutions that the future must hold in store, and on them rests, it seems to me, the fact that we will survive this unprecedented period in the history of men."

The university has thus become

engaged on a variety of fronts of which it had had no previous knowledge and in which it took no deep interest. The old concept of the academic world—exclusive, secretive, and self-adulatory—dies hard. But there are abundant indications of a profound change in the popular attitude toward the academic and the intellectual. Indeed, in some quarters the attitude has changed from one of polite respect to wide-eyed deference.

The change has taken place first of all and most markedly in the sciences; it is beginning to appear in the social sciences; it is least apparent in the humanities, although even there there are faint gleams of a new day. The reason for the change, of course, is that the intellectual, to an extent and in a manner not known before, has begun to deliver the goods. Einstein, once the symbol of the benevolent but zany mathematician, is now recognized as the creator of the world in which we live. It is the pure scientists and mathematicians, the physicists particularly, who have suddenly become the doers and the creators, and the ultimate criterion of the prestige of a university is the number of Nobel prizewinners in science that it can display on its academic roster.

The social scientist can show no triumph comparable to that of the scientist, because he has done remarkably little as yet to remake a world that in the area of human relations and organization seems to be as chaotic and frightening as ever. But if he has not achieved the status of the scientist, he has obviously become a respectable

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engineer. He is increasingly the expert summoned to patch up legislation, or to nail together a party platform. As Professor Roy Daniells has wittily pointed out, such scholars are the paladins of a new era, who descend by jet-plane upon remote and ill-governed communities.

"At once," he goes on to say, "guns cease fire, crops and herds multiply, insects and virus diseases diminish, rulers reduce the number of their wives to four, sewage goes underground, dissident political elements do likewise."

In this transformation of the intellectual into a man of affluence and power, the humanist has, as usual, not participated in a major fashion. But even on this rarefied soil, a few delicate green shoots are beginning to thrust their way up. The business world, with its passion for stimulating consumer demand, and with its growing concern for the art of communication, now often turns to the humanist for advice and inspiration, and he, too, occasionally joins the social scientist among the paladins of a new age.

The academic has thus become a doer, and to that extent his status has never been higher. But if he simply changes his old subsidiary preparatory role for a new bondage, then he becomes a means of accelerating a process that he plays no part in initiating. This is the supreme challenge confronting the modern university, and upon its response to this will depend its emergence as a really creative force.

There are a number of hopeful signs. First, there is the tendency for the creative writer to gravitate to the university campus. The typical young writer of the 1960's, it has been observed, is a serious young man lecturing to a roomful of English literature students and wondering absently whether his application for a Guggenheim award or a Canada Council fellowship will be accepted. It is often suggested that this is a sign of literary decadence, that there is something inherently contradictory in the creative writer living and working in a university atmosphere. A more hopeful interpretation is that the writer recognizes that the university is a creator as well as a custodian of culture, and that in this atmosphere he can live and flourish.

A rather plaintively despairing article on British universities in a recent issue of the *Times Literary Supplement* concludes on this positive note: "Since 1900 we have seen the London literary and intellectual world—the world of the pubs and independent author—languish and begin to die away. British scholarly writing is now dependent on university patronage almost exclusively, and the university is called upon to perform many of the other functions that used to be catered for in other ways. The challenge of British universities to the British imagination is perhaps the most urgent of all."

Another hopeful sign is the occasional tendency of the scientist to break through the old common-sense hard-boiled attitude of complete re-

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Edited by

JOHN T. SAYWELL, Ph.D.

Canadian historian and political commentator

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moval from social issues. C. P. Snow, in "The New Men," tells us that the physicists, "whose whole intellectual life is spent in seeking new truths, found it uncongenial to stop seeking when they had a look at society. They were rebellious, questioning, protestant, curious of the future and unable to resist shaping it. The engineers buckled to their jobs and gave no trouble, in America, in Russia, in Germany. It was not from them, but from the scientists, that came heretics, forerunners, martyrs, traitors."

We are faced, then, with a multiplicity of demands, with a variety of interests, and with a whole new series of obligations and responsibilities. The obvious reaction is to try to make the university a mirror of this complex world, and to make it serve as faithfully as it can the multiple needs of society. I would argue that the very opposite is required: that when the field is so rich, we need to divide it up carefully.

What we need most to do is to recognize the necessity for a variety of institutions devoted to higher learning, each of which moves in its individual way toward an assigned goal, not independent of the other or subservient to it. Among these the university should be the first, and the most important, but it should not be the ultimate goal toward which all aspire. There could be nothing more salutary for our society to-day than the refurbishing of the concept of the university, so that it becomes the true custodian of the intellectual life.

I am not trying to establish an

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antithesis between élite and popular culture. Provided we establish other institutions that are concerned with general education and with the practical application of knowledge, there need be no bad conscience about exclusiveness. It is just as important to discourage some people from going to university as to encourage others to go; and in certain areas it is just as important to maintain flexible academic standards as it is in others to insist upon the most rigid ones. Only by a system such as this will it be possible to contain and develop the vast, fluctuating world of higher education.

Even with this decentralization of higher education that I am suggesting, we shall not escape from the problem of bigness, and its corollary, which is even more dangerous, of inhumanity. We are witnessing to-day in the large university a progressive retreat from the student. It has become fashionable to write off the undergraduate as an ineffective student who is just amiably about the place. The Master's degree is the most recent academic coinage to be debased; and now the same disintegrating process is at work with the doctor's degree. I am told that there are universities in the United States where the more distinguished members of the staff will deal only with post-doctorate students, on the grounds that all others are incapable of pursuing research. We thus have within the large university an increasing separation between the various academic elements, a sort of progressive alienation of one group from the

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others. Research has become an obsessive end in itself, and before it everything else disappears or fades into insignificance.

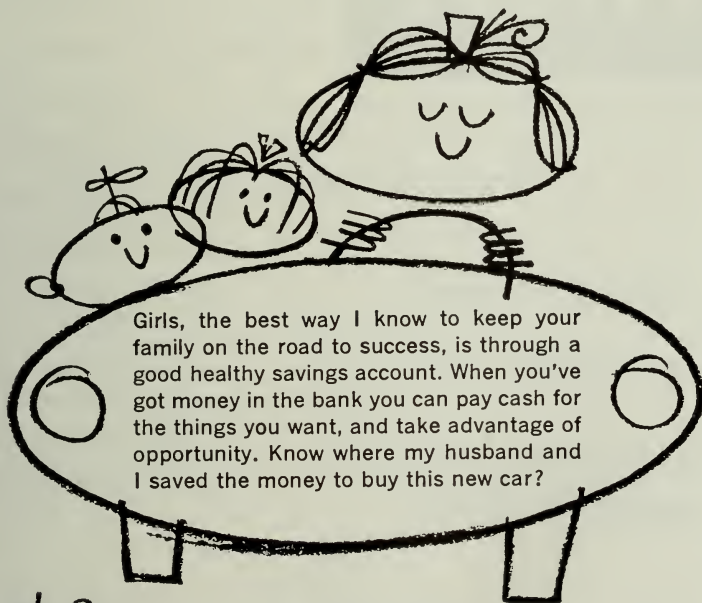
To counteract this, I think that we need to think in terms of the reconstitution of the academic society, so as to make it possible for all parts of it to live and work together, not only within the classroom and the laboratory but outside in the more informal contacts that a university community makes possible.

The classical solution of this problem has been the Oxford and Cambridge college system, which is usually bound up with the idea of a highly selective, aristocratic intellectual society and a very high degree of endowment. There is no question of transposing this system to the new world, but I still think that this general idea can be adapted to new conditions, provided we are ready to admit that the ideals of intimacy and close community obtainable in the Oxford system can no longer be secured here.

Perhaps I can best illustrate what I have in mind by describing the kind of problem at the University of Toronto and giving the solution for it that we have in mind. The University of Toronto within its Faculty of Arts and Science is a federated system in which instruction in the basic humanities is carried on by four distinct and autonomous colleges. Each college has its own residential system, and the college and residence are inseparable. In our new expansion plans we gave heavy consideration to the problem of residences, and in the early stages had



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decided to erect two or three huge residential buildings to accommodate approximately 1,500 students. The effect of this proposal on the structure of the University would have been disastrous. The University would have been split into two different universities, one of which was based upon the federated system and linked to residences and colleges, the other of which was really just the big American unitary university, with a number of instructional buildings surrounded by an academic suburbia of big apartment houses. At the same time we were faced with the problem of how to provide residential accommodation for such a large group of students without involving ourselves in hopeless estimates of expense.

The solution was to think of the residences as residential colleges, and to provide in our plans for two areas that had not been originally scheduled. The first was a number of offices for administrative and academic officials and for tutors in the college. The second was space where non-residential members could meet for lunch or for social occasions. The idea, then, is to attach to the residence a group of non-residential members and a corps of faculty members who will be associated with the college and who will engage in a certain amount of informal instruction. Moreover these new residential colleges will be multifaculty in composition, and in this respect will differ from the original colleges which are confined to the Faculty of Arts and Science. In this way we hope to provide social and

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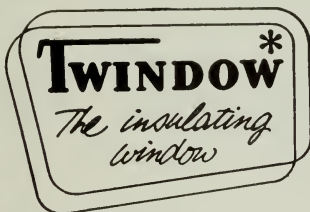
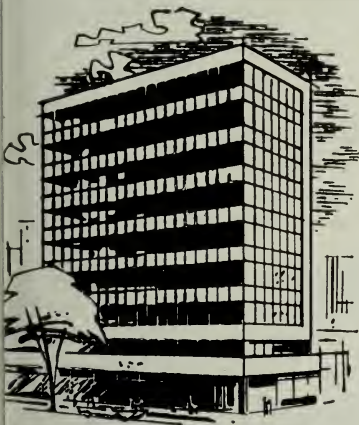
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I suggest two ways, then, in which the university of the future can equip itself to deal with the new problems. The first problem, as I have stated, is the threatening dissipation of energies that so many new responsibilities bring, and the suggested solution is a clarification of aims and obligations and their expression in a variety of institutions of higher education. The second problem is what we might describe as the inhuman academicism involved in the constant pursuit of new knowledge, and the solution is the recreation in a new way of the old concept of the academic human community.

Turning to financial support for higher education, I take as my text Ecclesiastes x.19: "A feast is made for laughter and wine maketh merry: but money answereth all things."

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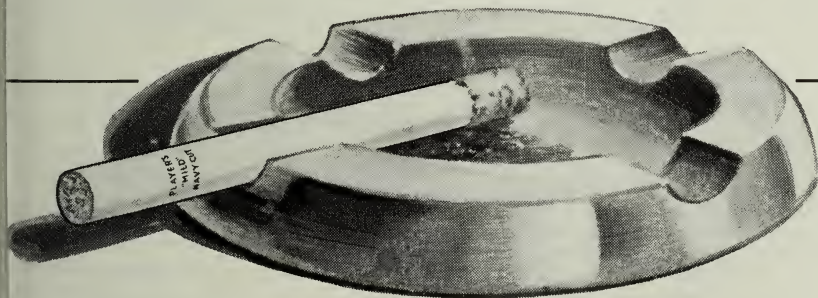
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reluctance about spending large sums of money on higher education.

I am convinced that in this country universities are the key institutions in national development and in the elaboration of our world role. To-day the old economic forces upon which this nation was tenuously founded are subjected to more and more strain; and if we are to survive as a nation we must substitute a flow of ideas and information. This can be done only through books, newspapers, through radio, television, through the creation of cultural centres such as the festivals at Stratford, Montreal and Vancouver. All of these streams are fed by the universities, and without the universities they would shrink into dry runnels.

On the international plane I have earlier made some suggestions about the place of the universities. Because of them we can play a positive role, deepening the bases of our understanding of other cultures, by contributing to the training of experts for the new countries, and by helping to establish that international community of the mind which is a harbinger of a wider community.

We can do little in Canada about the great deterrent; we can do much about a great propellant. Canadian universities are ready to shoulder heavy responsibilities; they rank high in public esteem, and in all fundamental matters they speak with one voice. There are many things for them to do in the future, and I believe that they will be given the means to do them.

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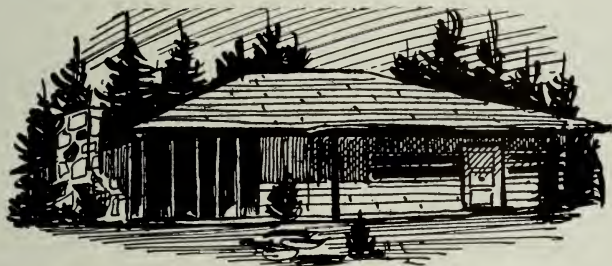
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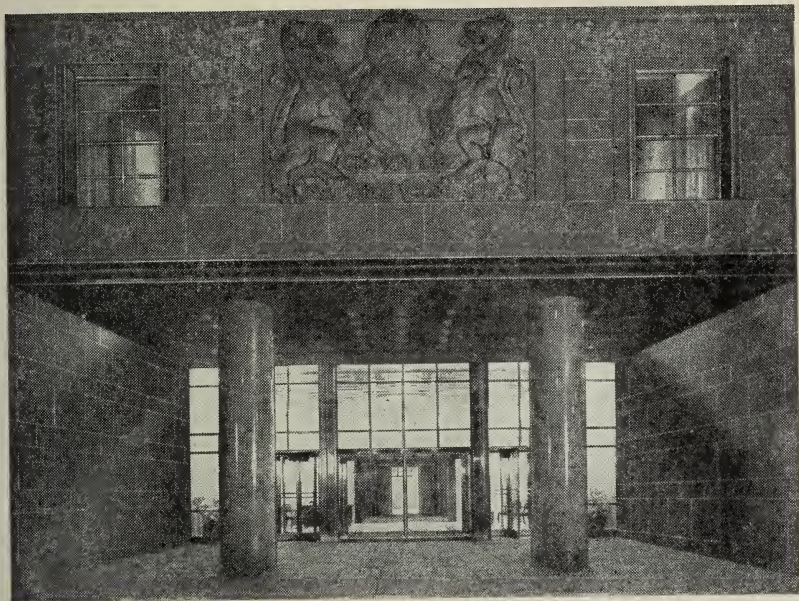
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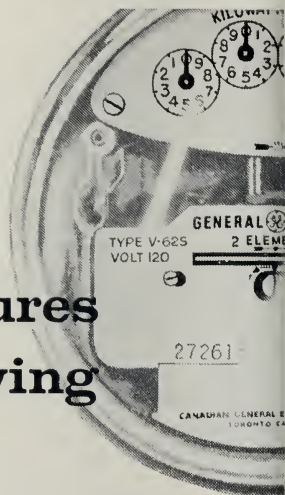
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Number Two

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Ken Bell, of Art Associates, Ltd., made the cover photograph, his fifth in nine issues. Photos by Bob Lansdale, of Jack Marshall, and Co., Ltd., appear on pages 25, 44, 48, 55, 56, 59, 60, 61, 62, 63, 66, 67, 68, 69 (bottom) and 75. Eric Trussler photographs: 19, 21, 28, 29, 30, 31 (bottom), 32, 49 and 50. Bev Best photographs: 33, 37, 40, 42. The air views on pages 58 and 64 are by Gilbert A. Milne and Co., Ltd. Photos on 54 and 72 by Fednews. Top of page 31: courtesy CBC Television News. Top of page 77: courtesy of Globe and Mail. Eric Aldwinckle made the sketches on pages 17 and 43. The sketch on page 18 is by Eric Thom, architect for Massey College.



COVER: Inspecting a model of Massey College, made by the architect, Ronald Thom, are the Rt. Hon. Vincent Massey, C.H., and Dr. Claude Bissell, President of the University of Toronto. Mr. Massey is Chairman of the Massey Foundation which will build, furnish and equip the college on a University site. Robertson Davies, the Master-Designate, writes about plans for Massey College in an article beginning on page 15 of this issue.

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L. S. LAITY, B.Arch., M.R.A.I.C., A.R.A.I.A.

J. B. MAR, B.Arch., M.R.A.I.C.

JOHN C. PARKIN, M.Arch., F.R.A.I.C., A.R.C.A.
F.R.I.B.A., A.C.I.D.

E. R. WILBEE, B.A.Sc., P.Eng.

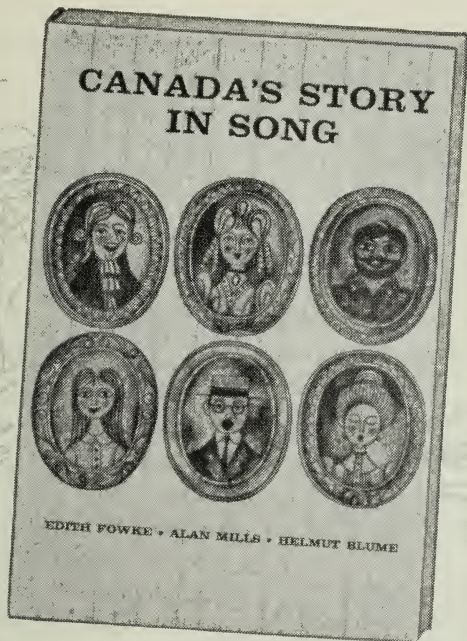
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J. G. SPENCE, M.R.A.I.C.

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The Golden T Class won't see either the celluloid collar or the poached egg clerical hat

LETTER

from Halfmoon Bay

Post-marked Halfmoon Bay, B.C., the following note from Rev. Canon Alan D. Greene arrived in mid-April—and made the day shine. The Columbia Coast Mission, from which Canon Greene retired as Superintendent in 1959, operates the hospital mission ship “Columbia”, the mission ships “John Antle” and “Rendezvous”, Aged Folks’ Guest Houses at Garden Bay, B.C., and the John Antle Memorial Clinic at Whaletown.

DEAR EDITOR: I have no right to use this Columbia Coast Mission letter-head, as I have retired. But I venture to use it as a means of your identifying me. I am a 1911 Graduate of University College and am rather intrigued by the idea of going East for the Golden T reunion on June 3rd. I'd like to see who are left of the old gang and what they look like. I'm heaving every penny and nickel I find in my pockets when I go to bed, into a coffee tin, and with this can hope to pay for a few hundred gallons of gas for my car, should I drive to Toronto. I might pick up the odd 1911 man en route and charge them mileage. Perhaps I'd end up with a few trailers behind me if the cavalcade grows.

I'm somewhat bushed after all these years on the Coast as a sea-faring parson. I began my work here in 1911.

I'm interested in hearing or reading that one of the new Women's Residences is being named after Marion Ferguson. She was one of a little party that headed West that summer. Where she ended up on the Prairies I don't know and what she did that summer I'd like to hear. I got a glimpse of her about five years ago when she came to hear me preach on this Mission at Grace Church on-the-Hill.

Is one supposed to attend such functions as a reunion in the garb of his calling? Mine is a composite one. Part is that of an old sailor. Part of it, that of a mechanic who has wrestled with the almost human quirks of gas and diesel engines. And an apron to suggest that I've cooked at least ten thousand simple meals in the past fifty years. Concealed somewhere around my neck will be a clerical collar. Not the original celluloid one I wore long ago. It caught fire and I nearly went to glory ahead of time. I threw my first pancake or poached egg clerical hat out the window at the end of the first and only day I ever wore such. One look at myself in the mirror sealed the fate of that hat.

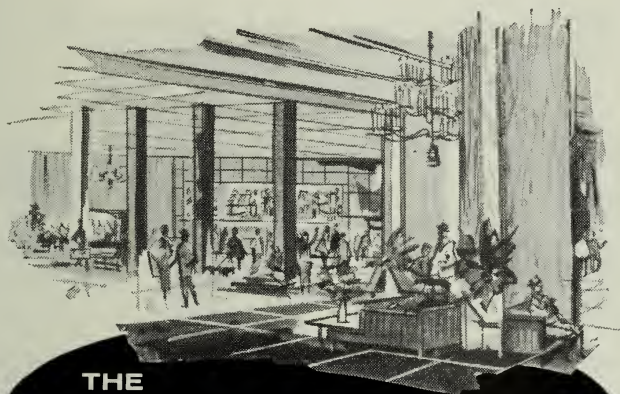
Perhaps one of the events in the 1911 reunion should be a parade of the old grads in the costume of those or more recent years. Nobody will be able to identify me as a Period piece, as my garb will suggest the many transmigrations of my person.

You are a busy person and I must not take any more of your time.

Gratefully yours,

Alan D. Greene

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CLASS NOTES

1907

CLINTON J. FORD (V) recently retired as Chief Justice of Alberta.

1911

HERBERT P. FRID (S) received the honorary degree of Doctor of Laws from McMaster University.

H. M. YELLAND (M) has retired from practice in Peterborough, Ont.

1912

J. B. COLLIP (T) has retired as Dean of Medicine at University of Western Ontario.

1917

HAROLD G. FOX (UC) has been elected an honorary member of the bench of the Middle Temple, London.

1920

VEN. F. G. LIGHTBURN (UC), rector for 30 years of St. James's Anglican Church in Stratford, Ont., has moved to Kitchener as rector of the Church of St. John the Evangelist.

1924

G. R. PATERSON (Ag) is consul general in Los Angeles.

1926

W. R. CARROLL (UC) is president of the Canadian Institute on Public Affairs.

VERY REV. G. B. FLAHERTY (StM) has been named Roman Catholic Archbishop of Winnipeg.

C. W. PHIPPS (F) is president of the Ontario Forestry Association.

1929

REV. G. R. SERVICE (V) has moved from Toronto to Chatham, where he is minister of Victoria Avenue United Church.

1930

E. H. BENSLEY (M) is associate dean of the Faculty of Medicine at McGill University.

1931

W. L. BROWN (UC) was co-winner of the Barlow Memorial Medal of the Canadian Institute of Mining and Metallurgy.

1932

WILLIAM H. BOWMAN (S) is a vice-president of American Cyanamid Co.

KENNETH P. LAWTON (V) is secretary of the New Brunswick Public Utilities Board.

1933

J. C. R. PUNCHARD (S) is director of development at the Northern Electric Co. Ltd. research and development laboratories, Ottawa.

1934

JOHN S. BEATTY (UC) is president of Allied Florists and Growers of Canada, Inc.

1935

GRAHAM T. SCOTT (UC) is president of the Toronto chapter, National Office Management Association.

(More notes on pages 10, 12)

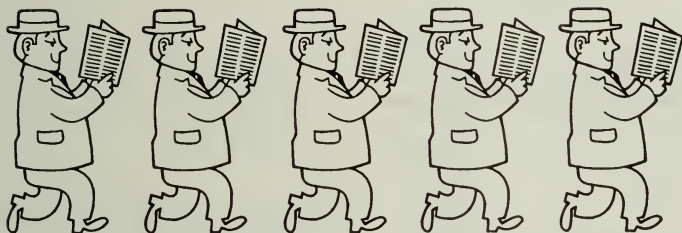
Abbreviations

UC—University College; V—Victoria College; T—Trinity College; St M—St. Michael's College; S—Applied Science and Engineering; M—Medicine; D—Dentistry; SW—Social Work; P—Pharmacy; POT—Physical and Occupational Therapy; N—Nursing; HS—Household Science; TC—Teachers' Course; F—Forestry; Ag—Agriculture; VM—Veterinary Medicine; Mus—Music; PHE—Physical and Health Education; GS—Graduate Studies; LS—Library Science; Ed—Ontario College of Education; L—Law; Hy—Hygiene; A—Architecture; B—Business; Ch—Child Study.

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1937

W. A. DEVEREAUX (S) is general manager of the newly-organized Yarnall-Waring Co. of Canada Ltd.

HENRY R. ROBERTS (T) is president of Connecticut General Life Insurance Co., Hartford, Conn.

1939

C. GRANT CORNELL (P) is managing director of Mead Johnson Ltd., United Kingdom operation of Mead Johnson and Co.

H. E. GUNNING (UC), professor and head of department of chemistry at University of Alberta, has been appointed a member of the National Research Council.

1940

MARGARET AVISON (V) has won the Governor-General's Award for Canadian poetry for her book of poems, "Winter Sun".

W. W. CAMERON (UC) has resigned as chairman of the Saskatchewan Securities Commission to become prosecutor for the city of Victoria.

1942

REV. ALEX CALDER (UC) is minister of St. Paul's Presbyterian Church, Peterborough.

ALLEN A. SHEPPARD (UC) is chairman of the board of directors of the Chemical Institute of Canada.

1943

W. J. CHEESEMAN (S) heads Canadian operations of International Telephone and Telegraph Corp.

REV. E. D. JONES (V) takes over in July as vice-principal of Alberta College, Edmonton.

1944

J. M. BROKENSHIRE (V) is manager, air handling sales, for Trane Co. of Canada Ltd.

J. R. DALRYMPLE (S) is Canadian plant manager of Remington Rand Ltd.

C. A. L. SULLIVAN (St M) is general manager of the Confectionary Association of Canada.

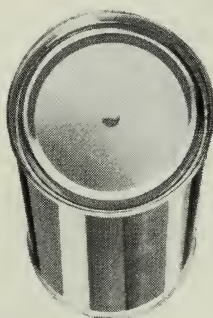
1946

F. W. BOSWELL (UC) is associate professor of physics, University of Waterloo.

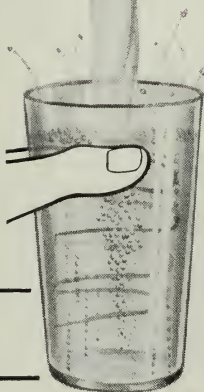
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1947

JOHN HAZLETT (M) is the Canadian Orthopaedic Association Exchange Fellow for 1961.

1948

JOHN B. CLARK (S) shared the Henry Marion Howe Medal, oldest honour of the American Society for Metals, for the outstanding technical paper at the Society's congress.

R. H. DUNLOP (V) is manager of the corporate trust department, Crown Trust Co.

G. W. T. RICHARDSON (S) is superintendent of the Welland plant of Union Carbide Canada Ltd.

REV. G. L. ROYAL (UC) has moved to Codrington as minister of Knox Church.

1949

VERNON JOHNSON (S) is chairman of the Calt, Ont., Board of Education.

KATHERINE MCKINNON (LS) is chief librarian at Moose Jaw, Sask., Public Library.

W. A. NEWELL (T, L '52) has been appointed Crown Attorney for the Mukoka District.

1950

W. E. BELL (S) is resale products supervisor in the plastics division of Du Pont of Canada Ltd.

HAROLD W. BLAKLEY (S) is president of Crane Ltd.

MAJOR W. W. OSBORN (S) has been posted to the U.N. force in the Middle East.

1951

ALAN HEISEY (S) is manager of Engineering and Contract Record Magazine.

1952

T. C. ARMSTRONG (S) is city engineer St. Catharines, Ont.

G. A. DUTHIE (M) is president of the East Kootenay Medical Association.

1954

DOROTHEA GUSE (SW) is selection and training officer, Saskatchewan Department of Social Welfare and Rehabilitation.

FRANK PHILBROOK (P, M '58) is resident physician with the Raina Hospital, Srinagar, Kashmir, India.

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"We shall try to show that intellect enhances life . . . We shall try to remember that a merry heart doeth good like medicine"

The Grand Design for Massey College

by Robertson Davies

WHAT SORT OF PLACE is Massey College going to be? People put the question in a wonderful variety of intonations, expecting me to give an answer in a voice of ringing certainty. But I won't. It would be dishonest and stupid to commit the College to detailed policies and plans at this point in its development. Good colleges are not created: they grow. It is the earnest desire of everyone associated with the Massey College project that it should be a very good college, and we know that we must be patient, and ask the patience of others, during the growing period. When the College has been in full running order for five years we shall know pretty well what it is going to be like, and so will everybody else.

This is not to say that we have no plans. The principal purpose of the College is to be a society of learned men within the University. We shall not have room for all the learned men available, but as our numbers will change yearly we hope that in the course of time we shall include a great many of them. Each year we shall have places for approximately seventy of the best students of the Graduate School as residents, and for another twenty-five as non-residents. These will be the Junior Fellows of Massey College. The appointments will be divided as evenly as possible between men working in the Humanities and the Sciences. The non-residents will have all the conveniences of

the College except sleeping quarters; it is expected that many of this group will be married men.

There will be eighteen Senior Fellows, including the Master of the College. These will come principally from the academic staff of the University, but perhaps two or three of them will be non-academic men who have distinguished themselves in business or the professions. If any of them want to have rooms within the College, suites for unmarried Seniors are provided. As with the Junior Fellows, this Senior group, which forms the corporation of the College, will change from time to time.

No formal teaching within the College is contemplated, but plenty of work will go on there. Each Junior Fellow has a living-room and a bedroom, and will share a bathroom with one or two others; the non-residents share a large hall in which each has a desk and working accommodation, with a good deal of privacy, which is his for the term of his appointment. The College provides a well-stocked Library, and facilities for getting special books as the Junior Fellows may require them. Everything is being done to establish an atmosphere in which serious academic work can be carried out under the conditions of privacy and decent comfort which it demands. Science men will need their laboratories elsewhere, but we hope they will find things at Massey College which will persuade them that it is a good place to live.

What sort of things? Stimulating society in a variety of forms, prin-

cipally. One of the aims of the College is to relieve something of the isolation in which many graduate students now work. I am told that a man may gain his graduate degree without knowing more than two or three others who are working in his own field. At Massey College he will have a chance to meet men who are working in realms wholly different from his, some of them from distant parts of the world, with points of view which will be strange to him. As well as the other Junior Fellows, he will meet the Senior Fellows, their guests, and distinguished guests of the University. We expect a great many guests, representing every phase of learning, industry, commerce and the arts, so that the Junior Fellows will meet the kind of people they may expect to encounter when they leave the University. In a modest way, we hope to do something to bridge the gap between what Sir Charles Snow has called "the two cultures", chastening the orgulous superiority of the man of science, and persuading the humanities man to lift his eyes from his mole-like burrowing.

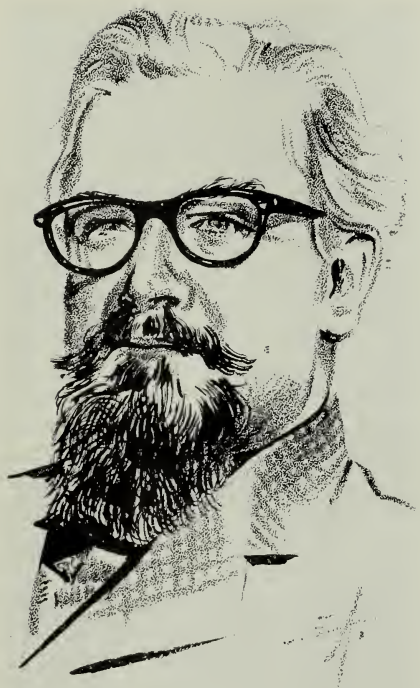
We shall stress the unity, rather than the diversity, of learning. We shall remind our Junior Fellows of the neglected truth that the things uniting educated people are more numerous and important than the differences of study which divide them. We shall try to show that intellect enhances life in all its aspects, and is not a disease comparable in effect to rheumatoid arthritis in the physical realm. We shall try to remember that a merry

heart doeth good like a medicine, but a broken spirit drieth the bones.

This aim, as you see, does not lend itself to being described; it must be realized in practice. If you were to ask me how we are going to do it, I could not find words in which to tell you, but I can assure you that we shall most certainly do it, nevertheless. We shall find a way of living together, respecting one another's privacy in working-hours, but meeting in the Common Room, in the Dining Hall, and in the Master's House, for the kind of association and comfort which learned men ought to offer to one another. We shall, of course, talk unceasingly.

Critics of the project have suggested to me that this means the formation of an élite. I do not agree. If all the Junior Fellows worked at one discipline, and came from one sort of background, it might be so, but in our selections we shall seek a variety which will make such narrowness impossible. The one thing the Junior Fellows will have in common will be alert intelligence; if that possession could make them an élite, we should have to reconcile ourselves to being one, but there is no likelihood of any such outcome.

The architect, Ronald Thom of Vancouver, has already done much to settle the atmosphere of the College by his brilliant design. Our site is a small one, at the corner of Hoskin avenue and Devonshire Place. Our building will enclose a quadrangle; living quarters will occupy the east, north and west sides, and on the



Named Master-Designate of Massey College before the first sod had been turned for its construction, Robertson Davies is a daily newspaper editor and publisher who has written sixteen books—essays, novels and criticism—many of which have also appeared in Great Britain and the United States and in translations. He has also written a number of plays, most of which have been performed in Canada, and some of them in Norway, Switzerland, the United States and Great Britain. Born in Thamesville, Ontario, in 1913, Mr. Davies received his formal education at Upper Canada College, Queen's University, and graduated from Balliol College, Oxford, with a B.Litt. He also is an LL.D. (Alberta) and a D.Litt. (McMaster). He has been Visiting Professor in English Literature at Trinity College this year. At Massey College, he will live in his own apartment with his wife and three daughters.

south side the Library, Common Room and Dining Hall will rise in a block of masonry crowned with a large glass lantern which will look extremely festive when lit up at night. The quadrangle is in effect a garden, including an ornamental pool, surrounded by facades which are composed principally of grilles which contain the windows. Although the college faces inward, the facades on the two streets are not forbidding; they contain long panels of glass which relieve the masonry and will, especially at night, give height to the walls. The Devonshire Place facade is broken by the College entry, which again is crowned with a light, open structure, and will have handsome iron gates.

As well as the accommodation for the men directly connected with the College, it will possess a handsome room specifically designed for oral examinations, and it is expected that a great number of graduate students will take their *viva voce* there. Such examinations are usually the last in an academic career; a place of suitable dignity should be provided for them.

Mr. Thom has done the remarkable feat of designing a college of

medieval plan without imitating medieval forms; it is a wholly modern building to be used for a timeless purpose. If it is true, as I believe, that buildings determine by their character what happens within them, Mr. Thom has made the second vital contribution to establishing Massey College as a great adjunct to the University.

The first move was, of course, the determination of the Massey Foundation to create such a College. This body, which has given so much to the University, conceived of a community of scholars at Toronto, and will make its ideal a reality. I am proud that it has asked me to help by being first Master of Massey College.

Waggish friends around the University have made merry about the title I am to carry. Let them reflect: in the University which already possesses a President, a Warden, a Principal, a Provost, a Superior, twenty or thirty head of Deans, and Directors uncounted, what academic titles remain unused? Only Rector (which has clerical sound in Canadian ears) and Master. So Master of Massey College it is, and in three or four hundred years everyone will be accustomed to it.



Dictionary of Canada Biography and Le Dictionnaire Biographique du Canada to be twin publications

Laval becomes full partner in enterprise

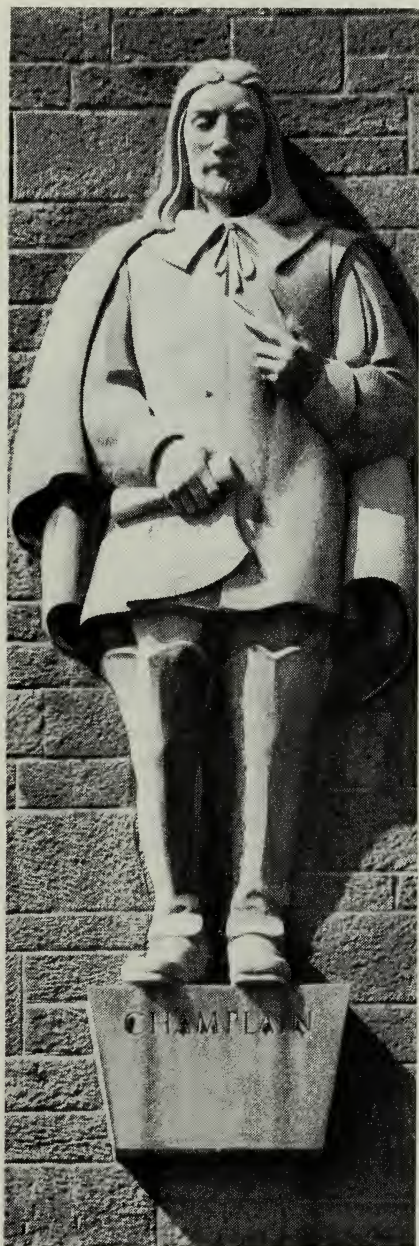
THE UNIVERSITY OF TORONTO PRESS has gained a powerful partner for a great new publishing venture: in the first large, truly bilingual enterprise in Canadian scholarship, the Dictionary of Canadian Biography (DCB) will be published by the University of Toronto Press and Le Dictionnaire Biographique du Canada (DBC) will be published by Les Presses de l'Université Laval.

Both Toronto and Laval will maintain full-time and part-time staffs and duplicate biographical centres. French- and English-speaking scholars will maintain the closest possible contact during every step in the operation, screening historical names, requesting and checking biographies from experts writing in either language, arranging translations, down to final editing.

"We'll be like Siamese twins, two personalities but a single entity",

Quebec historians will write about Champlain and other French pioneers.

—sculpture by Jacobine Jones



explained the General Editor, Professor George Brown at Toronto's history department. At the time, he was thumbing through a file of letters, some of them in English, others in French. "For day-to-day work, we'll use whichever language is convenient", he added. "That's real bilingualism."

While adding immeasurably to the Dictionary's value, the French edition complicates an already formidable task. When the late James Nicholson left more than \$1,000,000 to the University of Toronto for a DCB, he stipulated that it supply "full, accurate and concise biographies of all noteworthy inhabitants of the Dominion of Canada (exclusive of living persons), from the earliest historical period."

At last count, DCB files held 12,000 names of "noteworthy inhabitants", and the intensive search in most periods was just beginning. Since each entry will be an essay of 100 to 10,000 words, depending on the character's importance, the DCB/DBC will fill a good-sized bookshelf.

Dr. Brown and his staff already have taken the first major steps towards Volume I, covering the years to 1700. They have given a fascinating preview of its contents in a list of 529 names, distributed for comment to experts in and out of Canada.

The list begins with John Abraham (Hudson's Bay Company governor) and ends with Nicolo Zeno (14th century explorer). In between are familiar names: Cartier, Cabot, Champlain, Frontenac, La Salle, Hudson,

Frobisher, Davis. There is also a fair sampling of missionaries, pirates, fur traders and others, among them:

Snorri Thorfinnson (born about 1005), son of a Norse colonist, said to be the first European child born in North America.

Hélène Desportes (born in 1619), first white child born in New France.

Jean Duval, who tried to assassinate Champlain.

Donnaconna, Indian chief taken to France by Cartier.

Jean Boisdon, Quebec's first inn-keeper.

Charité, Indian girl given as hostage to Champlain.

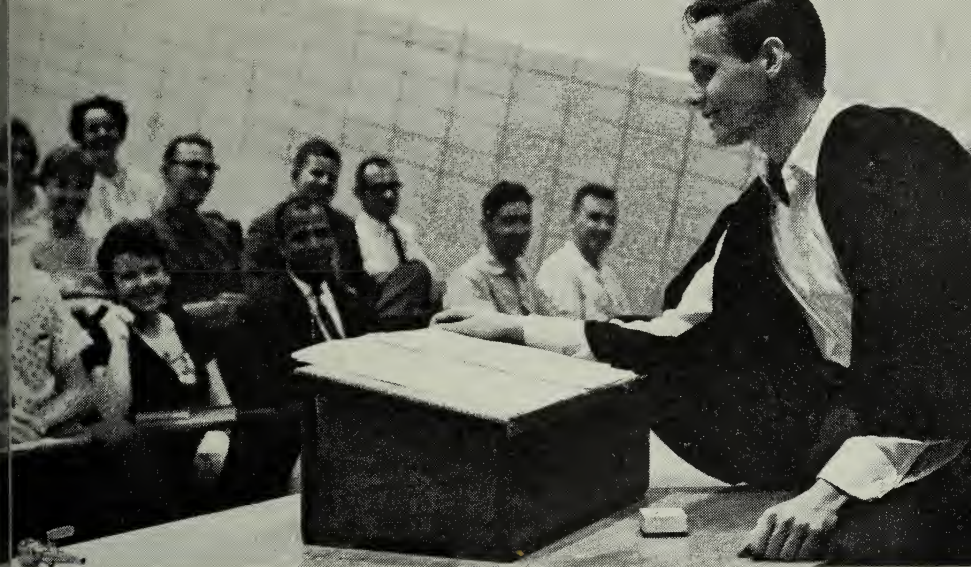
Jacques Bizard, Frontenac's aid-de-camp, who traded liquor to the Indians.

Sir Bernard Drake, a kinsman of Sir Francis, who seized a Spanish fishing fleet in St. John's harbour in 1585.

Mareuil (first name unknown), tried in Quebec in 1694 for "play acting."

Experts who scoured the lists offered many suggestions, including 300 further names. From two English scholars in particular came a wealth of yet-unpublished material on the Cabot era.

Now Professor Brown is requesting contributions from the men and women best versed in each of the 600 to 700 figures who will finally appear in Volume I. Since the essays and their translation to English or French, are to be of high literary quality, it will take more than a year to complete this stage.



There is less formality and more elbow-room—but with 7,000 people on campus, the “long vacation” is much like any other time

Hot-Weather University

WITH SUMMER IN THE AIR, the University is getting ready for . . . well, *not* for a long holiday.

The “slack season” last year meant only that the campus population dropped to 7,000—more students and professors than most Canadian universities have in winter. With at least that many expected again this year, a number of events are being planned to maintain the right university atmosphere. These include:

A series of public addresses by outstanding personalities, to be known as the President’s Lectures, and to be given at noon in Convocation Hall;

A series of informal public interviews with distinguished visitors to the campus;

A variety of tours, possibly including visits to the Stratford Shakespearean Festival, the David Dunlap Observatory and an archaeological “dig”;

Social events, among them a dance and garden party;

An information office in University College, with the Junior Common Room a centre for summer extra-curricular activity.

In the future, it is hoped this will expand to embrace a summer School

of Drama and Music, using Hart House Theatre and the new Edward Johnson Building of the Faculty of Music; an international festival of scientific films; and a three- to ten-day residential seminar on some current social or political problem.

Devonshire House and the men's and women's residences for University College will be open throughout this summer, and boarding-houses in the University district will be busy. A review of what happened on campus last year will help to explain why.

During the 1960 summer term, more than 1,100 men and women, mostly teachers from out of town, worked towards a Bachelor of Arts degree through daily lectures offered by the Division of University Extension, and given by regular faculty members. Another 2,250 were enrolled in Ontario College of Education courses for interim and specialist teachers' certificates. In both divisions, enrolment has almost doubled in four years.

For the eighth year, the Department of English offered courses leading to the Master of Arts degree, for the first time with a visiting professor. At the north end of the campus, more than 500 men and women took advanced work leading to the Bachelor and further degrees in Education. Others studied towards Masters' degrees in Social Work and Library Science.

Last summer also saw more than 400 students and teachers of music enrolled in special courses. The Faculty of Medicine, which continues

its regular classes each year through May, ran a six-week advanced graduate course in the principles of medicine, surgery, obstetrics and gynaecology for about 70 doctors seeking specialist standing. The School of Nursing, as usual, ran on an 11-month academic schedule.

These were the formal activities on campus in the summer of 1960. Just as important—perhaps even more so—were the study and research which accelerated once regular classes ceased. In the Mechanical Engineering building, 22 graduate students engaged in research projects running the gamut from atmospheric pollution to a forward-looking means of rocket propulsion. In the department of physiology, staff and graduate students took over teaching laboratories as soon as classes ended. In every corner of the University, graduate students worked in labs, read, studied, conferred with professors and wrote theses.

With the School of Graduate Studies one of the University's fastest growing divisions, this type of activity is increasing rapidly. Scientific research facilities are used almost to capacity in the summer, often the most productive period of the year. Not only Varsity students, but those from other campuses across Canada, the United States and in other countries are coming to Toronto to use specialized resources.

So much is happening in July and August that a new appointment has been suggested: Dean of Summer University. He would be a busy man.

"There is every evidence that one hundred countries called underdeveloped because of their dreadful poverty . . . have ample physical resources to permit decent lives for their people. . . ."

"In the decade ahead, ten, fifteen or twenty key countries can achieve a real breakthrough towards self-generating, self-propelling economic growth. . . ."

"One million people must be trained for highly skilled occupations in ten years . . . there is no time to lose . . ."

"By 1970, we could be well started ... by 2000, victory could be ours"

THE QUOTATIONS printed above are from an address to Convocation by Paul Gray Hoffman, Director of the United Nations Special Fund and honorary Doctor of Laws of the University of Toronto. Dr. Hoffman blue-printed his hopes for a world in which peace would be possible after he and four famous engineers received the University's LL.D. degree in March. The occasion was a convocation to mark the opening of the Galbraith Building, new headquarters for the Faculty of Applied Science and Engineering.

Presenting Mr. Hoffman to the Chancellor, Dr. F. C. A. Jeanneret, for his degree, President Claude Bissell described him as a corporation president turned internationalist.

"From the presidency of the Studebaker Corporation", said Dr. Bissell, "Mr. Hoffman was snatched by President Truman to be the first Administrator of the Marshall Plan—the plan to achieve a stable prospering economy in Europe as a major step toward a stable prospering world economy. Then for two years Mr. Hoffman was President of the Ford Foundation. A Studebaker in high gear can set a terrific pace: the Ford Foundation, under his leadership, developed a policy whose scope and imaginative-ness was unmatched in philanthropic history. 'It is hard to be daring in a big foundation,' one of the Ford trustees has said, 'but some of the things Paul Hoffman did rang round the world.' Now Mr. Hoffman's epic gifts

Right: After presenting the Director of the United Nations Special Fund to the Chancellor for his degree, President Claude Bissell asked Dr. Hoffman to sign the University's Golden Book.

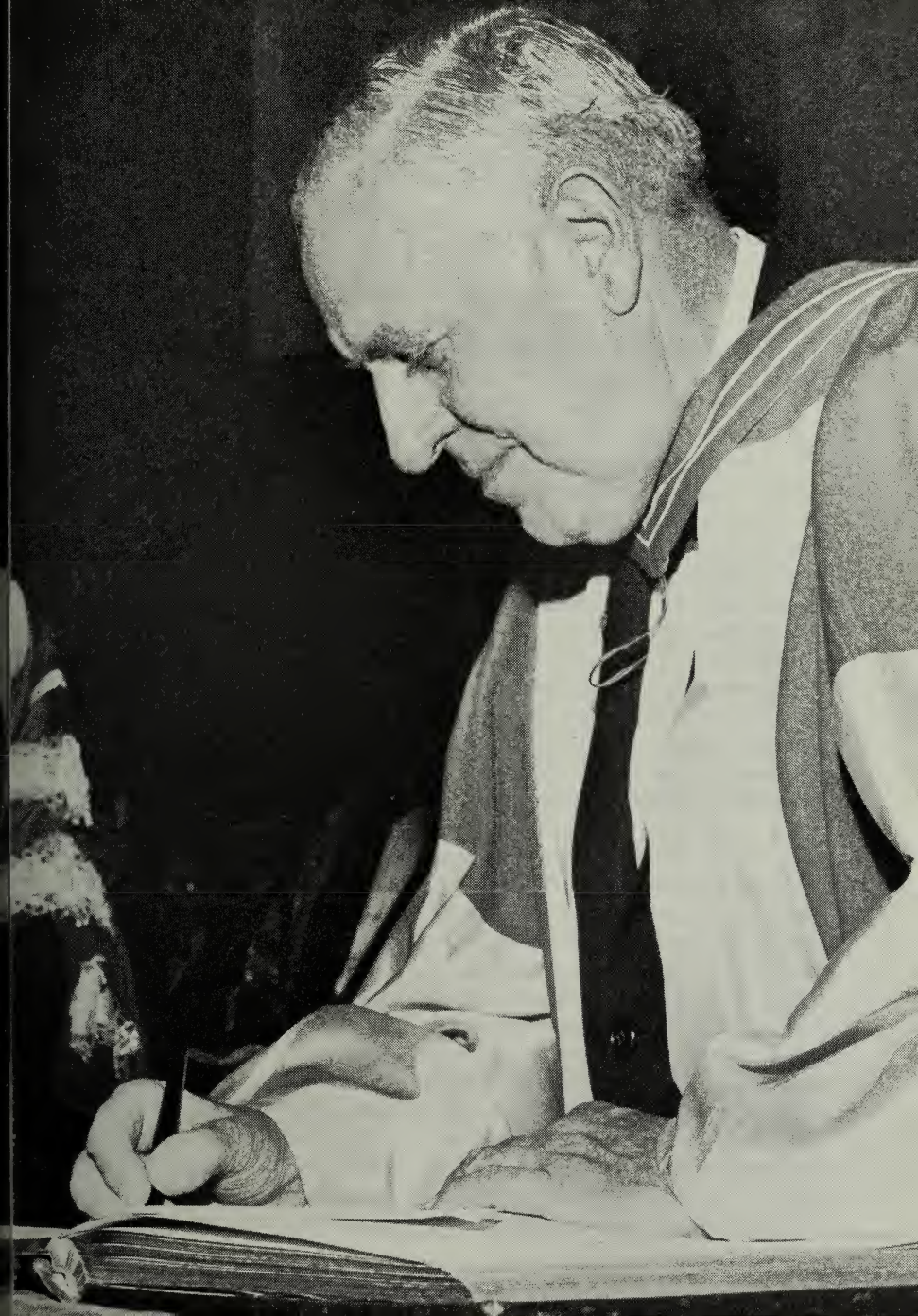
are dramatically employed in the Managing Directorship of the United Nations Special Fund.

"Mr. Hoffman brings remarkable qualities to his task: economic know-how, wide experience in large-scale financial operations, psychological insight, and a vision of the good life that embraces nothing short of all the people on earth. He is a Middle Westerner—'isolationist', he has told us, 'by both instinct and indoctrination'—who has taken the world for his parish. He knows the world from the Mekong River Basin to the Volta, from the desert locust outbreak area to the coasts of British Guiana; and he is supremely dedicated to the economic betterment of the world by helping others to help themselves.

"Mr. Chancellor: in the name of the Senate, I request you to confer the degree of Doctor of Laws, *honoris causa*, on Paul Gray Hoffman—an expert in the mechanics of co-operation; a production engineer with one and one quarter billion clients; a builder of the citadel of peace."

In the course of his address, Dr. Hoffman appealed persuasively—and at times passionately—for support of the United Nations. Under-developed countries were less inclined to resist direction from the U.N. than they would be from individual powers: as a co-operative endeavour, the U.N. could not be accused of seeking politi-





cal or commercial advantage. To do the job right, the United Nations would need \$500 million annually—\$150 million for a force to keep the peace and \$350 million for general expenses and the financing of a wide

range of activity in the economic field.

"This is a large sum," said Dr. Hoffman, "but not so large when compared with the \$100 billion a year which U.N. member nations are spending on defence."

PAUL HOFFMAN'S ADDRESS

MAY I SAY, before starting my address, how honoured and delighted I am to be an alumnus of the University of Toronto. The degree conferred on me has special value because I am an international civil servant and it is the first and only degree I have received from a university outside the United States.

This evening I am going to talk to you about the most pervasive revolution of all time—one for which the engineering profession is largely responsible—the revolt, active and sometimes explosive, of no less than two-thirds of the world's people against the miserable conditions under which they have been living. These people are determined no longer to accept poverty, illiteracy, chronic ill health and despair as their way of life. This development has aptly been called "The Revolution of Rising Expectations". It is gathering such momentum that it justifies the new description given to it by President Soekarno of Indonesia who, at the United Nations recently, called it "The Revolution of Rising Demands".

This mighty social revolution has caught hold firmly in no less than one hundred countries and territories associated with the United Nations, and which, by any standard, must be called underdeveloped because of the dreadful poverty of their people, who number no less than one billion, 300 million of our fellow human beings. The 650 million people in Mainland China are not included in this figure because Mainland China is not a member of the United Nations.

For centuries these hundreds of millions of people lived in ignorance of the outside world. They accepted patiently lives of misery because they could imagine nothing better. However, in the 1920's, thanks to the inventions of our engineers and scientists, the outside world began to move in on them principally by radio, although the automobile and airplane played a part as well. By 1950 there was hardly a villager who was not aware that in many countries in the outside world people like himself, villagers if you please, were well nourished, well educated and well

taken care of from a health standpoint. Patience gave way to impatience which finally reached proportions that fully justify its being called a revolution.

An awareness of the significance of this revolution did not penetrate deeply into the consciousness of the people of the more advanced countries until the late 1940's. In the late 1940's there was a growing acceptance of the idea that besides profound moral reasons there were also compelling political reasons and good sound business reasons for assisting the people in the poorer countries to speed their development.

A number of governmental and inter-governmental programs, some in the pre-investment field, some for capital investment, got under way in 1948 and 1949. By pre-investment I mean those activities which prepare the way for sound investment. Included in this category are technical assistance programs which send experts into these countries and provide fellowships to send nationals of emerging countries to educational institutions in more advanced countries. Included also is assistance to the emerging countries in evaluating their natural resources, and in establishing local research and training institutes.

The most noteworthy of the pre-investment activities which got under way in 1949 were the United Nations Expanded Program of Technical Assistance and President Truman's Point Four Program. As to investment, it was in the same year that the

International Bank for Reconstruction and Development (World Bank) began making development loans for the first time. Previously it had confined itself largely to post-war reconstruction loans.

In the 1950's there was a substantial increase in assistance to the low-income countries, both in pre-investment activities and in capital investment. Canada and other countries set up bilateral programs. United Nations assistance, to which Canada generously contributed, also was considerably enlarged. As nearly as can be estimated, between two and three billion dollars were spent in various types of technical assistance and pre-investment work. Also during that decade from \$27 to \$28 billion of investments flowed from the high-income countries to the low-income countries, making \$30 billion in all.

Not all of these billions were spent effectively because this complex business of assisting other nations in speeding their development was new. However, as nearly as can be estimated, income per person improved by a net of 10 percent during the decade, an average of 1 percent per year. The gross increase was 3 percent per year but there was a 2 percent annual increase in population. Admittedly, this rate of income growth was too slow—dangerously too slow. It must be stepped up. Economists say that it is entirely realistic to take as a goal for the crucial decade of the 1960's a 25 percent improvement in per capita income. This goal may seem

(Continued on page 90)

The Great Lakes are yielding their secrets to the University's floating laboratory

Varsity's Navy

by Ian Montagnes

THE CITY OF HAMILTON had an iceberg scare last winter: dozens of people raised an alarm about a "mountain of ice" floating five miles out in Lake Ontario. Harbour police sent an airplane to investigate. What

the pilot found was the *Porte Dauphine*, research vessel of the University of Toronto Great Lakes Institute, labouring under a heavy coat of ice from flying spray.

This summer, the *Porte Dauphine* will cruise in sunny Lake Huron off Douglas Point, where Canada's first commercial atomic power plant is under construction. To find out how radioactive waste will disperse once the plant begins operation, scientists aboard the vessel and at a permanent shore camp will chart water and air currents. They also will take a census of flora and fauna in the lake for future study of the nuclear station's effect on local waterlife.

The importance of the University's newest research interest has been emphasized by Professor George Langford, director of the Great Lakes Institute. "Thirty million people," he said, "are living on or near the Great Lakes today. By the year 2,000, there may be sixty million. As things are, the Lakes are still the world's greatest reserve of fresh water, and fresh water



Left: A fine-mesh net is hauled from Lake Ontario with plankton samples for University biologists



On the Porte Dauphine's bridge, Captain A. A. F. Hodge, is flanked by his mate and Professor Roger Deane of the Great Lakes Institute. *Below:* The Porte Dauphine.





In Porte Dauphine's lab, Mike Wong counts bacteria in water sample

is our most valuable single natural resource.

"The question is, will the Great Lakes be able to support future populations, or will they turn into one gigantic cesspool?"

Dr. Langford sees no reason why the Lakes cannot be kept in usable condition for a thousand years, provided they are regulated to prevent pollution and other abuses. But much more must be known about them. The Institute will collect the first sizable, systematic mass of information.

This calls for assaults from many directions. Aboard the *Porte Dauphine* are specialists in physics, chemistry, biology, geology and meteorology. The University has impressive outside

support as well. The Federal Department of Transport, the Ontario Department of Lands and Forests, the National Research Council, the United States National Science Foundation and the Canadian Committee on Oceanography all contribute money or services. Both the Fisheries Research Board and Atomic Energy of Canada Limited were expected to join them this summer. In addition, the Institute is co-operating in specific projects with the Ontario Water Resources Commission, McMaster University, the University of Western Ontario, and Lamont Geological Observatory of Columbia University.

While studies have been carried on in the past by individual organizations on both sides of the border, none has been able to bring together so wide and powerful a range of disciplines and authorities.

The key to the enterprise is the *Porte Dauphine*, on loan to the Institute from, and operated by, the Department of Transport. Originally a Royal Canadian Navy gate vessel, to which anti-submarine nets were fastened, she helped guard the St. Lawrence during World War II. Now the *Porte Dauphine* is crowded from stem to stern with equipment to measure currents and water temperature, record weather, dredge up samples from the bottom, take plankton counts, record water and air pollution, and carry on a score of other tests. Except for two months when she was in drydock to have additional laboratory and other facilities fitted, the *Porte Dauphine* has been in constant service



On muggy days in summer, students sometimes jump overside for a before-dinner dip in North America's biggest bathtub. But winter is different! *Top* photo is a clip from a CBC-TV newsreel, taken after Hamilton reported an iceberg off-shore last winter. *Below*: Sediment and tiny creatures from the lake bottom are hauled aboard for study.





Left: Women need a good excuse to board the Porte Dauphine. Winogene Ferguson was welcomed as an Information Officer planning illustrations for this article. Here she discovers how sunshine is measured.

since the Institute was established last July.

In the six months before being hauled out of the water, the Porte Dauphine zig-zagged over 16,175 miles. A total of 3,141 water samples were checked for sewage bacteria, industrial waste, conductivity, oxygen, hardness and alkalinity. Twelve hundred samples of plankton were gathered, enough to keep analysts busy until the middle of this summer. On occasion scuba divers—frogmen trained by the University in special classes—explored the bottom.

Dr. Langford and Professor Roger Deane, who is in charge of the Institute's research activity, hesitate to discuss any conclusions reached about Lake behaviour. They point out that

this is a long-term project involving many years of study. However, these are some of their interim findings:

1. The warmest winter spot in Lake Ontario is in the middle. While ice rings the shoreline, centre temperatures stay at 35 to 37 degrees.

2. Long-held theories about water circulation in the Great Lakes appear to be false. For example, it was thought the Niagara River, pouring into Lake Ontario from the southwest, created a great clockwise swirl which led to the formation of Toronto Island. The Porte Dauphine discovered lake currents are little affected by the Niagara, and tend to parallel prevailing winds.

3. Perambulating beds of ooze sweep around the bottom of Lake Erie. One day, a diver may be up to his armpits in muck; a month later, he will find the same place completely cleared by the current. What this means to the fishery industry is still under study.

As far as research is concerned, the University's new Institute puts the Great Lakes on a par with Canadian oceanographic studies on the coasts.

The information that Dr. Langford and his staff are gathering in their scientific nets will guide thoughtful legislators on both sides of the border in the fight to preserve the Great Lakes for the future.



Mrs. George Drew, née Fiorenza Johnson, sets the stone

Fanfare on Philosophers' Walk

ON AN APRIL AFTERNOON super-charged with Spring the University's men and women of music visited the steel skeleton of their new Edward Johnson Building and gave the neighbours a taste of things to come. A trained choir sang the National Anthem as it is seldom heard and trumpet fanfares heralded an

important occasion. Then, with prayer, pageantry, and speeches of satisfaction, the corner-stone for the Edward Johnson Building was laid.

Edward Johnson's daughter, Fiorenza, symbolically tapped the stone into place. She was supported by her husband, the Hon. George Drew, Canada's High Commissioner to the

United Kingdom, and a distinguished academic company. Guests numbered close to a thousand. None seemed more interested than the University of Toronto scholars and administrators who operate the Royal Ontario Museum, and representatives of the Faculty of Law who will be moving into an enlarged Flavelle House in the autumn: they will be Music's close neighbours, north and south.

Together, the University's Faculty and School of Music comprise the Royal Conservatory of Music of Toronto. The Edward Johnson Building is for the Faculty, with the Opera School (part of the School of Music) using one of its theatres as required. The School proper will be housed in a renovated wing of the present Economics building, just across Philosophers' Walk to the west.

The corner-stone ceremonies on April 20 began with an academic procession from the Royal Ontario Museum and ended at the Museum with a reception. Henry Borden, Vice-Chairman of the University of Toronto Board of Governors, was the chairman.

After the invocation by the Very Rev. J. M. Kelly, Mr. Borden warmly welcomed Mrs. George Drew, her husband, daughter and son. He said that Mrs. Drew's father, Dr. Edward Johnson, was a Canadian who not only acquired fame for himself throughout the world, but added lustre to Canada and to the University of Toronto, where he served for many years as a member of the Board of Governors.

The speakers introduced by Mr. Borden were, in the order in which they spoke, Dr. Claude Bissell, President of the University; Dr. Boyd Neel, Dean of the Royal Conservatory of Music of Toronto; Dr. Arnold Walter, Director of the Faculty of Music, and Mrs. Drew. Their addresses follow:

Dr. Claude Bissell

The last few years have been marked by many ceremonies like this, and there will be many more to come. The laying of a corner-stone is a happy ceremony, for it is the evidence of hopes finally realized, of promises made good, and of plans about to be implemented. This is peculiarly true of the ceremony today. If we look back over the President's Reports of the last ten or fifteen years, we find an almost yearly reference to the acute need for new quarters for Music. The Reports inevitably contained a description of the dowdy decrepitude of the available quarters, and glowing references to the centrality of Music in a liberal education, and to the particular distinction of both the Faculty and School that go to make up the Royal Conservatory of Music in the University of Toronto. Perhaps, Mr. Chairman, I might be excused if today I speak very briefly in my capacity as Chairman of the Canada Council. The Canada Council has made a very large contribution to this building, and it takes a particular interest in it. I know that what I have to say would be warmly subscribed to by a fellow-

member of the Canada Council, Sir Ernest MacMillan, a former Dean of the Faculty of Music. Sometimes the grants of the Canada Council, particularly if they are small, arouse acrimonious criticism; but about this grant, which is approximately \$1,000,000, the only comment has been universal acclaim. Perhaps that is because it is realized that the Edward Johnson Building for the Faculty of Music is not dedicated to a cult or to a group, or indeed only to the University of Toronto; it will become a possession of the people of this nation.

Now I should like to say how happy I am that Music has physically taken up a position on our campus. It is my hope that with its arrival here it will take on a new place of centrality in the studies of this University. There is, I think, something appropriate in its position, with Law immediately to the south and Theology across the road, for therein we have recalled to our minds the curriculum of the mediaeval university. Also it is appropriate that this building should be side by side with the Museum, thus concentrating in one area the two activities of the University in which the general public participates most fully and most enthusiastically.

It is, I know, a special satisfaction to all of us that Mrs. George Drew should be here today to lay this corner-stone. We are grateful to her for leaving her busy schedule in London in order to grace this occasion. We welcome her for her charm-

ing and distinguished self; we welcome her, too, as the daughter of Edward Johnson, to whom this building is both a memorial and a tribute.

Dr. Boyd Neel

This is indeed a happy day for all of us connected with music at the University of Toronto. As I look around I can hardly believe that the building is really here at last. This building represents years of dreaming and scheming on the part of many people and it has looked very often as though we might never get it. It was obvious for many years that it would be quite impossible to continue to house the Faculty in the old Conservatory building for much longer. Its work, and the number of its students and staff, had increased so rapidly in the last years, that it became essential for it to have accommodation of its own in the very near future, especially with the greatly increased enrolment which we knew would be upon us very soon. This magnificent building will be adequate to serve the musical needs of the University for very many years, and I think we can say that, in its design and facilities, it will be unique among the music schools of the world.

I would like to take this opportunity of thanking all those on the staff who contributed such an enormous amount of time and thought over the last few years on the planning of this structure. I have no idea of how many hours the planning committee put in during these years, but I imagine that if we counted them up,

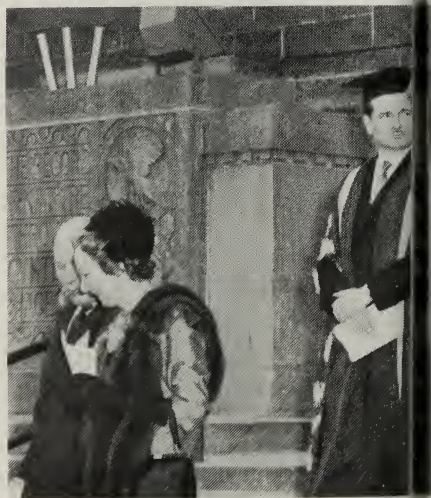
THE PHOTOGRAPHS:

Top: Mrs. George Drew waits as the stone is lowered. Beside her is Henry Borden, C.M.G., Q.C., Vice-Chairman of the Board of Governors, and, at the right, the Very Rev. J. M. Kelly, President of St. Michael's College, chaplain for the occasion.

Below: Mrs. Drew and Mr. Borden lead the academic procession from the Museum. Dr. Claude Bissell, President of the University, walks with the Hon. George Drew. Lt.-Col. W. E. Phillips, Chairman of the Board of Governors, walks with Father Kelly (who is partly hidden by Col. Drew). Then comes the Chancellor, Dr. F. C. A. Jeanneret, talking with Dr. Boyd Neel, Dean of the Conservatory, and Dr. Arnold Walter, Director of the Faculty of Music. Behind them is Gordon S. Adamson, representing the architects, and, at extreme right, Dr. Ettore Mazzoleni, Principal of the School of Music.

we would have quite an astonishing figure. I would like to express my appreciation of the patient co-operation of the architects and the members of the Superintendent's department. Musicians are a curious race and have ideas which probably seem weird and outrageous to planners of straightforward buildings, but I must say that even our most extreme flights of fancy received a sympathetic consideration from the technicians engaged on the job.

I found, when I started going into the question of a new building some nine years ago, that the idea had reached a very advanced stage as far back as 1942 and I came across a set of plans for an enormous structure





which was to house, not only the entire Royal Conservatory of Music, but also Massey Hall and the CBC. This great building was to be built on the north side of Bloor street between St. George and Bedford and would have taken up the entire block. Apparently, this scheme very nearly came off, and it was only on account of regulations which forced Massey Hall to reconstruct its lower floor at that time, that the whole idea was shelved. Having to undergo this rather drastic internal structural alteration, the Hall did not feel itself in a position to embark on a new building just then. The plans, however, can still be seen today, and the whole idea was certainly a wonderfully visionary one of the musical future of Toronto. It would, in fact, have been a kind of "Lincoln Centre" for this city. It is fitting, I think, therefore, that the end result has been placed almost within a stone's throw of where the 1942 scheme was to have been, and I feel that the position could hardly be bettered.

May I take this opportunity of thanking the President and the Board of Governors for providing us with such a superb building in which to carry on our work in the future.

Dr. Arnold Walter

Edward Johnson had not one, but three careers during his lifetime. He was a world-famous singer; he directed the greatest opera house in the Americas; he served, finally, as an elder statesman in the field of music, as counsellor, advisor, educator. Today

he starts a fourth career: as patron saint of music in this country.

Like all great men, he was very ambitious, but his ambitions were always matched by power of achievement. He became the singer he wanted to be. He left his imprint on the Metropolitan Opera. As an educator he accomplished what he had set out to do: this building, the ceremony, bear witness to the fact.

He made a speech once (I remember it well), a speech in which he said he hoped to turn Canada into a singing nation. An unlikely proposition (I thought then)—how could one person single-handedly change the attitude of a whole country?

But even that he seems to have finally accomplished. All our activities in the new building—composing, performing, teaching, lecturing, writing—all these activities will be like carrier-waves broadcasting his message. They will all help to make Canada more music-conscious; they will all help to turn her ultimate into a singing nation.

There are those, Mr. Chairman, who think that musicians are mere blowers of horns and tootlers of flute; lowly craftsmen who should be kept in their place; who should be kept out of the cloistered halls of high learning, where theologia and philosophia reign supreme. This, it seems to me, is utter nonsense, both historically and philosophically. The Quadrivium is older than the oldest universitas; and as to philosophy, I could call witnesses whom nobody here could contradict.

My first witness would be Plato, my last two would be Albert Einstein and Werner Heisenberg; and in between there would be a long procession of philosophers who tried to solve the problem *Quid sit Musica*.

If Heisenberg defines music as unconscious realization of mathematical proportions . . . if Einstein insists that imagination ranks far higher than knowledge; they are only reformulating what Pythagoras knew and Aristoxenos and the great Johannes Kepler—that music may well be nearer to ultimate reality than all the systems of philosophy.

Mr. Chairman: we of the Faculty of Music stand here as recipients of a magnificent new home. But we stand here also as bearers of gifts. However humbly, we bring to the University that fusion of knowledge and imagination which Einstein had at heart; that probing into the relationship of music and mathematics which occupies the mind of Werner Heisenberg; and finally, a commitment to Kepler's dream of *Harmonice Mundi*, of Harmony in all its heavenly and human connotation.

As far as the Arts are concerned, the dividing line between the living and the dead is meaningless. Those who passed on are still with us, alive in our memories, in our love—they speak to us, counsel us, demand that we heed their advice.

I would like to think that Edward Johnson approves of what we are doing here. I would like to think that he will always approve what we are going to do in this—in his—building.

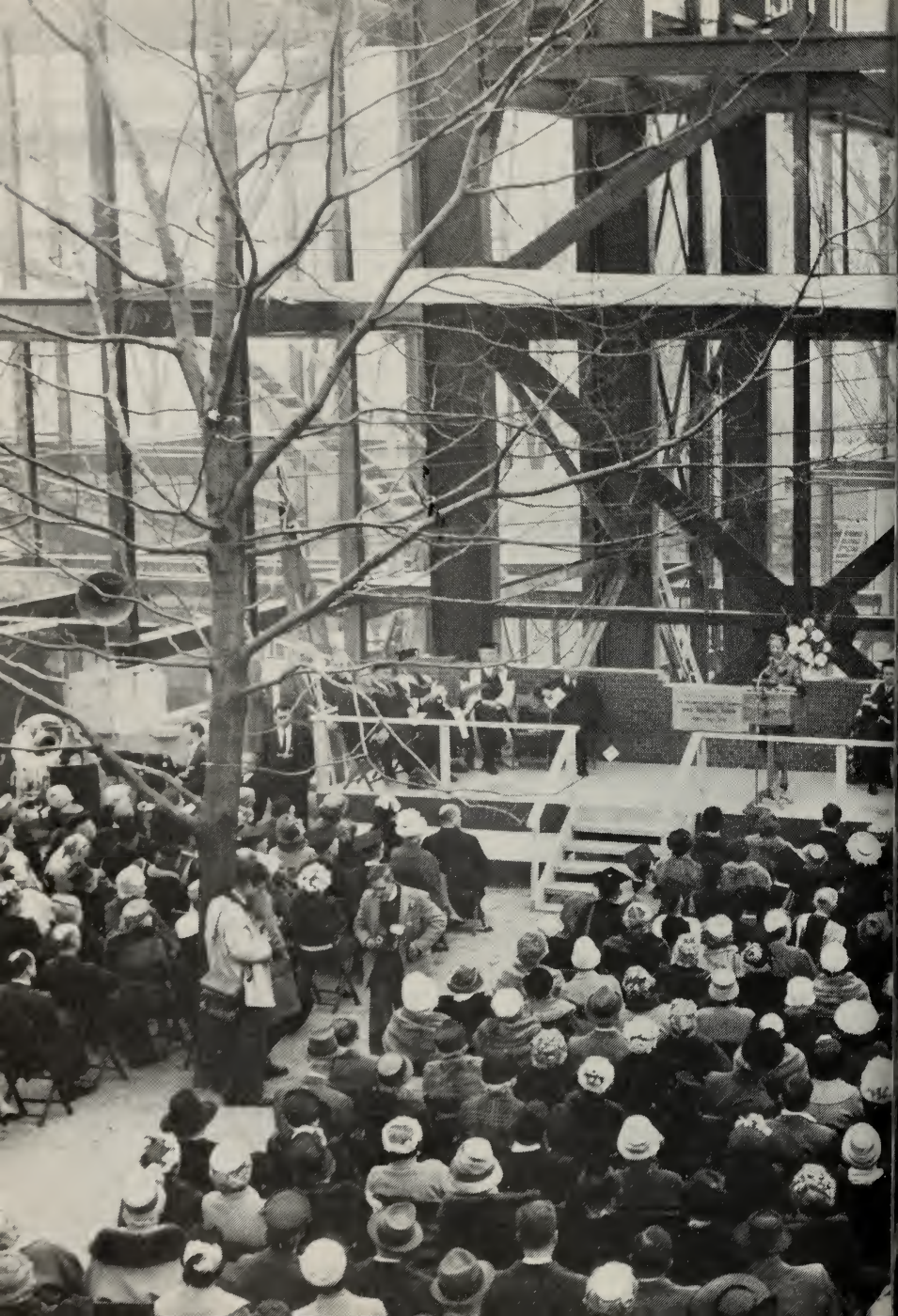
It is his building because the Governors of the University named it so, and most appropriately; it is his because, he only could have made its rise possible. It is his because every part of it, from the electronic laboratories in the basement to a splendid library on the top floor, will carry his message, and will help to make Canada a singing nation.

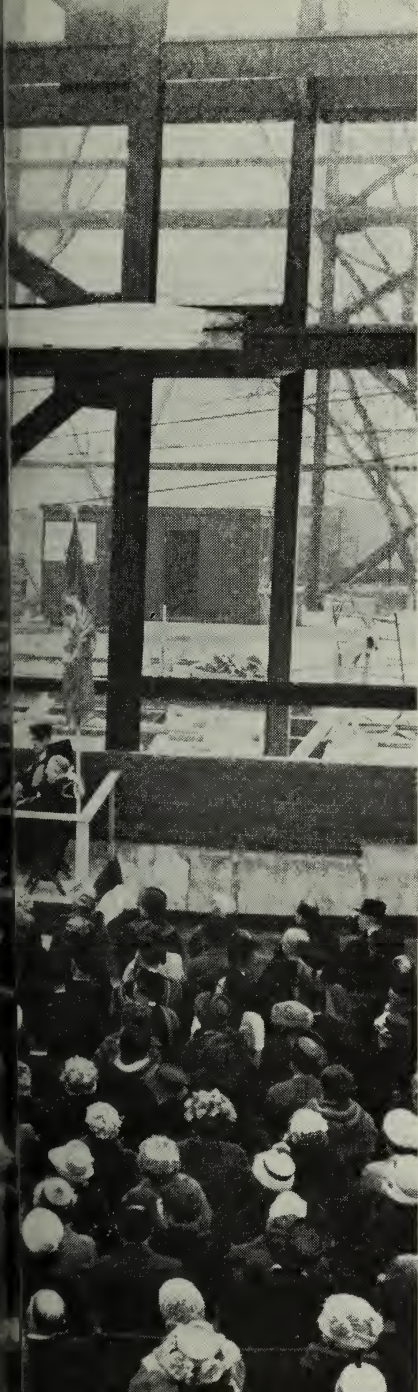
Mrs. George Drew

I have no words to really express to you my deep gratitude as well as that of my family for the honour which you have conferred upon us in asking me to lay the corner-stone of this great building which is named in memory of my father.

In speaking to you I am handicapped by the knowledge of how well my father would have expressed his thanks today, for I know how very much this would mean to him. I, for one, choose to believe that he is aware of this great event. I can only hope that in saying thank you to those responsible I may be able to do him justice.

As I look upon your faces I know so well that I am surrounded by my father's friends and that I need not tell the story of his life. I do feel, however, that it is important to remember that a little over 60 years ago there were no real opportunities in this country for the training or advancement of young Canadian artists and, therefore, my father left his native city of Guelph and went to New York to continue his studies and to work there. Subsequently he

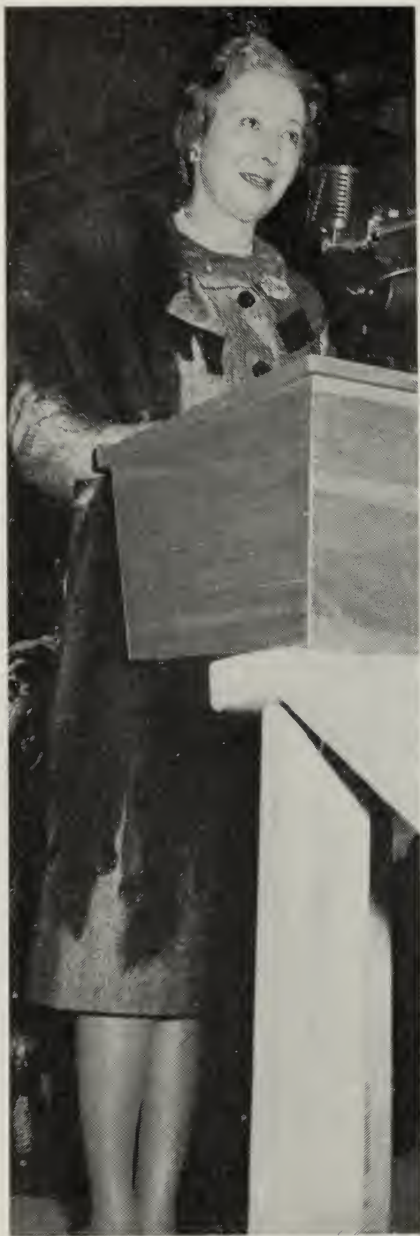




went to Italy to complete his training and make his career. At that time, I think that Europeans were under the impressions that North America, and Canada particularly, was peopled by wild Indians so that in order to make a headway in his chosen career my father translated his name literally into Italian. Edward Johnson became Edoardo di Giovanni, and he learned the language and the Italian style of singing so well that he passed for a native of that country. When he returned to North America in the early 20's he took back his own name and virtually began a new career, for no one had heard of Edward Johnson. However, Canadians and Americans were then beginning to give their own artists recognition on their merits.

You all know the rest of the story. But there is one aspect that I would like to emphasize. During those early years my father felt very keenly that something should be done to stimulate the interest of the very young Canadian in the appreciation and knowledge of music. An understanding audience, he felt, was as important as the development of individual talents. So as soon as he was financially able to do so, he established a fund to provide for music courses in the public schools of the City of Guelph. This was only a forerunner of the courses which today are part of the general curriculum in the public schools of Ontario.

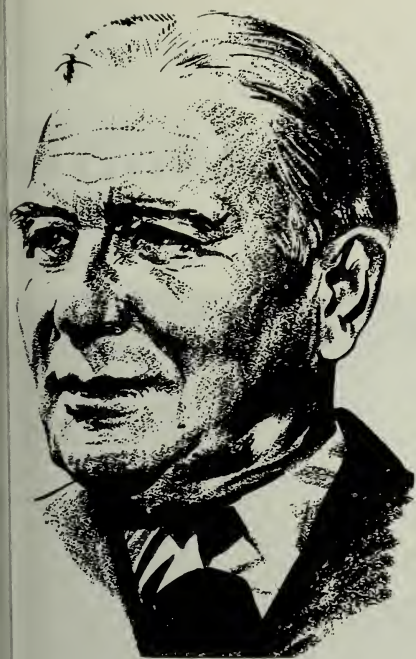
Later when he became general manager of the Metropolitan Opera he engaged, whenever possible, young



people from North America, many of whom were Canadians. He wanted them to have their opportunity. I may add in passing that today the European opera houses have many young Canadians in their casts. A considerable number are products of the Opera School of Toronto. In fact there are eight Canadians at Covent Garden in London alone. My father's heart always remained Canadian. He always retained his Canadian citizenship, and when he was invited to become chairman of the Royal Conservatory of Music he was honoured and delighted more than I can say because he felt that he was then closer than ever before to his dream of really doing something worth while for budding Canadian talent.

With the eager assistance and co-operation of his colleagues at the Conservatory, and the understanding and help given him by our beloved Sidney Smith, and the constant support he received from the Chairman of the Board and members of the Board of Governors, many plans were made and brought to a successful fruition. Among those plans, but at that time in a remote future, was the dream of such a building as this is going to be. My father so often said, "Make no small plans. They hold no magic to stir men's hearts and minds"

Today, thanks to those who had the vision to make big plans, we stand before the outer structure of a dream which has taken positive form and will in turn house the hopes and dreams of all who work and study here—teachers and pupils alike.



Edward Johnson, 1881-1959

Today, on the second anniversary of my father's death, I do want to say that I know of nothing which would have made my father happier, and that of the honours he received in his lifetime, none would have been more cherished than the naming of this building after him.

In laying this corner-stone today, I feel that an integral part of a great human being lies in it. It reminds me so much of something my husband and I saw in Athens some years ago.

A very wonderful man called Anthony Benaki had spent his life collecting all the most beautiful artistic treasures of Greece and of

other countries. To him these things of beauty were the breath of life. On his death he gave his beautiful museum, filled with the glorious collection of a lifetime, to his native city. In his Will he asked that his heart be placed in the wall at the entrance of the building and that the following words should be written above it: "It is my wish that even after my death something of myself should continue to exist in this Museum which I have created with such enthusiasm and love. It is for this reason that I make known my wish that my heart be built into the wall at the entrance of the Museum just below the plaque which you yourselves have put up."

This building which bears my father's name, like the Benaki Museum will not only be a thing of beauty architecturally, but within its walls will live our own musical treasures in the form of those who give of themselves to others so that their talents may blossom and flourish. The musical gifts of young Canadians will have an opportunity to be exhibited within the two splendid theatres to be included in this building.

For this reason I would like to make a comparison in saying that in this corner-stone which you have asked me to lay, and which bears my father's name in spirit the true receptacle of his heart and so it will always remain. May it be a source of inspiration to those who walk and work within its walls.

To those who have been responsible for making this dream come true I offer my heartfelt gratitude.

THE DEAN'S DINNER

DEAN VINCENT BLADEN WITH DR. J. C. POLANYI (CHEMISTRY),
DR. J. G. EAYRS (POLITICAL ECONOMY), AND DR. M. T. WILSON (ENGLISH)



Three younger members of the Faculty
talk about scholarship and what it means

n Evening to Remember



EARLY IN THE ACADEMIC YEAR, Dean Vincent Bladen was host at a Hart House dinner for 74 students—"not all the undergraduate cream in the Faculty of Arts and Science," he observed, "but surely the cream of the cream." These were the young men and women who had stood first in first class honours the previous Spring, or who had entered the University last Autumn with Prince of Wales or Edward Blake scholarships.

Seated among them in the Great Hall were the President of the University, the heads of three Arts colleges, the associate deans, chairmen of 17 departments in the Faculty, and other distinguished professors.

There was no head table. "By the ritual of breaking bread together," said the Dean, "we symbolize our community of interest in scholarship and our common pursuit of excellence." The absence of formality could not dim the brilliance of the gathering—yet it was, as the Dean remarked, a family party, and so he had asked three younger members of the family to talk about their chosen disciplines. These addresses follow in the order in which they were given.

There is [said Dr. Milton T. Wilson, Assistant Professor of English in Trinity College] an impressive array of scholar-

ship before me; also an impresive array of academic courses. I haven't tried to count them; but just think how many are necessary in order to make so many one-one's possible. I don't question this apparent multiplicity, and I certainly don't think it takes any credit from the student who heads his course; I just point it out. To look for unity in the Faculty of Arts and Science seems like a vain pursuit, as the Faculty's new split title may serve to emphasize. The Calendar inside and outside presents the Faculty as a very many-headed monster indeed. If there's any unity to be found, it certainly won't be a unity of subject matter. In some way, you are it.

Historians of mythology tell us that Cerberus began with fifty heads; but later tradition restricts him to three. It is to the credit of the Dean that for the purposes of the speeches this evening he has divided the Faculty of Arts and Science into only three branches: the Humanities, the Social Sciences, and the Natural Sciences. I don't recall that Virgil or Dante records any sharp difference of opinion among the mouths of Cerberus either as to tactics or as to aims. They were guarding the gates of the underworld, and the entrance requirement was unchanging.

In any case, I don't plan to talk about two cultures or three cultures or fifty cultures. Indeed, I suspect that I'm really talking to you under false pretenses. Whether the study of literature is a humanity, a social science, or a natural science, I haven't as yet

made up my mind. I suppose it depends on whether you see a poem as the life-blood of a master-spirit with Milton, or as a link which binds together by passion and knowledge the vast empire of human society with Wordsworth, or as an organism based on laws of its own with Coleridge. If I haven't made up my mind, it may be because I prefer to see it as all three. In other words, I take it that the Faculty's new title is an affirmation more of the richness and variety of each subject and its proper disciplines, than of any categorical divisions between one subject and another.

I wish there was a reputable literary genre called "remarks to scholars" which I could draw on for the occasion. But the best examples I can think of from English Literature seem somehow unsuitable or ominous. One of the finest scenes in Marlowe's *Doctor Faustus* is the Doctor's last conversation with the scholars of Wittenberg. His advice is well meant. But he is dragged down to Hell before the evening is up. I am also fond of a famous scene in "The Tempest": Prospero's address to the scholar Caliban. But I am unable to forget Caliban's reply: "You taught me language; and my profit on't / Is, I know how to curse. The red plague rid you / For learning me your language." In the end, you remember, Prospero breaks his staff and drowns his book, after a vision of cloud-capped towers (or should one say "mushroom-cloud capped"?) and a dissolving globe.

I suppose that these two examples are more suitable than they seemed a

first sight. Not, however, because they sound like current prophecies of doom and calls to scholarly responsibility, but because they present the scholar and his actions as eternally precarious. They suggest a unity of stance in a variety of stations. On occasions such as this we are often told of the pleasures and advantages of scholarship, of its full, satisfying and permanent rewards, of its tangible benefits to the individual and to society. I would not deny these for a moment. But any good student, and a first-class student in particular, is bound to have the sense that scholarship exists on a very risky slope, that its most convincing discoveries or successes can only be made by courting the most ridiculous errors, that its blessings and its curses are near-allied. This is the nature of the beast, and one of the many things you are to be congratulated on tonight is your discovery of the fact.

SOCIAL SCIENCES

As all of us are members of the University [said Dr. James G. Eayrs, Assistant Professor of Political Economy] I thought it might interest you to know that when I set about a little intellectual pump-priming for this evening, with as much of the world's learning at my disposal as is contained in the University Library, I turned to the writing of three University of Toronto professors. I'd like to tell you what it is I so admire in their work that I go to it first for inspiration.

About the first I shan't say much, not because there's not much to be

said, but because I thought he might be here tonight—and he *is* here tonight. Northrop Frye's writing dazzles me as that of no other scholar by its shining virtue of clarity. His address on the occasion of the installation of the eighth President of this University is, to put no finer point on it, the best statement in the English language of what he calls "the battle fought out between clarity and confusion, between thought and prejudice, between the truth that makes free and the bumbling of the father of lies". I wish the Canada Council, or some other benevolence, would press a copy of this address into the hands of every student, indeed of every professor, in the country, as the Gideons distribute Bibles in the bedrooms of hotels. They would do a lot more good.

I was never fortunate enough to be a student of Frank Underhill's when he taught at the University, but my wife was—and I've learned a lot from both of them. The writing of Underhill, a historian, has taught me more than anyone's about the nature of politics. I remember coming to university as a student impatient at what I thought to be the juvenile treatment of events by my high school teachers, with their stories of battles, of kings and princes; and I remember how eager I was, how desperately eager, to be initiated into the real arcana of social change, to learn something of those deep, impersonal, economic forces by which societies are said to be shaped and manipulated. But the more I've thought about it since, the

(Continued on page 79)



A captain

DISEASE AND VIOLENT DEATH have robbed the University of Toronto of two beloved landmarks. One is the queenly elm beside Croft Chapter House, a centenarian twice over before University College was built. The other is the massive rock which 35 graduating classes have seen on sentry duty at the head of Taddle Creek Road, with Meds to the left and Skulemen to the right—and many a fine rumpus to watch. One morning in April, the great rock was found shattered by frost, and a few days later, the tree, far gone with Dutch elm disease, received its death warrant.

The University hopes to save most of its 350 elms from the Dutch disease which is devastating many wooded areas in southern Ontario. A large hydraulic sprayer is being used to kill the fungus-carrying bark beetles with DDT, and the deadwood in which they breed is being pruned away wherever found. A watch will be kept for fresh outbreaks.

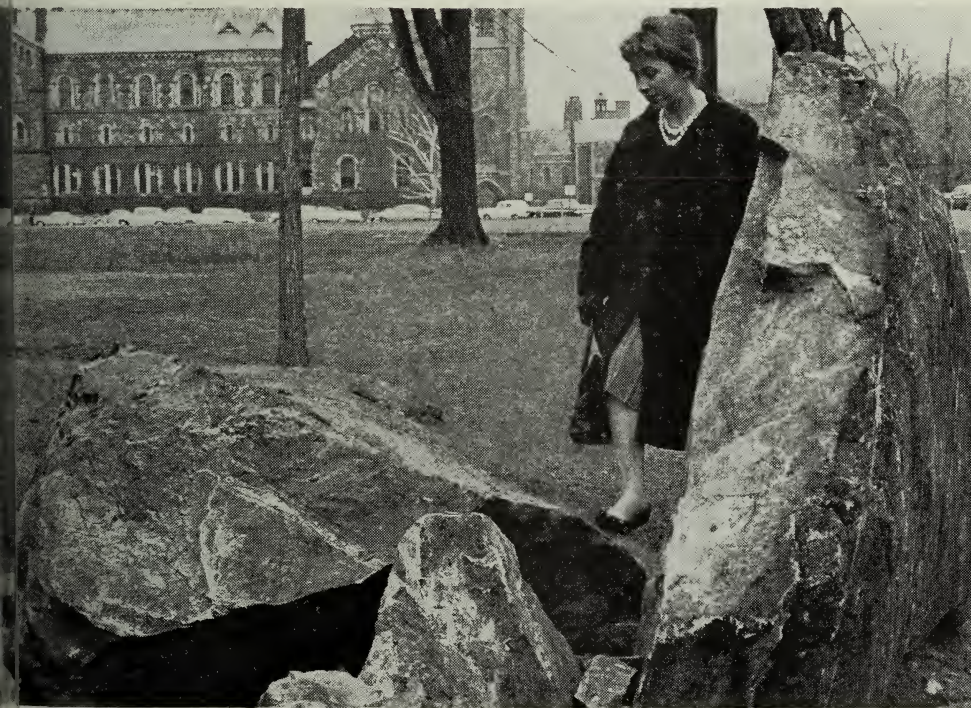
Left: A healthy new elm will be found to replace ancient tree

nd a queen depart

The big elm by the Croft Chapter House is one of seven which must be cut down. Woodlots are being scouted for a suitable replacement about 45 feet high and 14 to 18 inches through the bole. When fall comes and the sap runs down, the new elm will be

transplanted. A circle of roots 16 feet in diameter—the largest that can be transported through city streets—will be preserved.

The sentinel-rock, perhaps five hundred million years old, carried to the campus eons ago by a glacier, was



Now five tons of broken rock, Varsity's great stone will be used as fill in new construction

discovered during excavation for the School of Hygiene building. Workmen had laid fires around the boulder to break it up when Col. A. D. LePan, the former Superintendent of Buildings and Grounds, came to the rescue. He had the stone moved to the southeast corner of the front campus. A bronze plaque, long since vanished, was affixed to it as a memorial to Dr. A. P. Coleman, professor of metal-

lurgy and assaying in the School of Practical Science from 1891 to 1901, professor of geology at the University of Toronto from 1901 to 1922, and Dean of Arts from 1919 to 1922.

This Spring, thawing snow trickled into a fault formed sometime in the boulder's history. The water froze in an overnight cold snap, thawed and froze, thawed and froze—until finally the ancient stone broke into fragments.



THE PRESIDENT DISCUSSES OUR SHRINKING HEMISPHERE WITH 25,000,000 PEOPLE

WHEN CONVOCAION HALL is filled to the rafters for graduation ceremonies, President Claude Bissell can talk to 1,862 persons. On April 15 and 16, via television, he talked to twenty-five million.

The President had been invited to represent Canada and the field of education in an hour-long study by "Omnibus" of the future of the western hemisphere. The broadcast was carried on separate days by the Canadian Broadcasting Corporation in Canada and the National Broadcasting Company in the United States.

With Dr. Bissell to discuss what the next ten years hold for North and Latin America were Professor Samuel H. Beer of the Department of Government, Harvard University; Señor German Arciniegas of Colombia, at present his country's ambassador to Italy; Dr. Clodomir Vianna Moog of Brazil, author of the classic study of comparative ethics and societies of the two Americas; and Dr. Raul Prebisch of Argentina, executive secretary of the Economic Commission for Latin America, and formerly president of the Argentinian Central Bank and Professor of Economics at the University of Buenos Aires.

Each of the five speakers dealt with his own specialty. Dr. Bissell said:

ONE FIRM PREDICTION that can be made about education in the Western Hemisphere in 1971 is that it will hold an even more important place than it does today, both in the daily lives of citizens and in the councils of governments. For the relationship between ignorance and

poverty is clear now as it has never been before; and there is no country in the world that does not realize that the elimination of ignorance is a major step by which a society can take its full place in the company of nations.

To eradicate illiteracy is necessary, but by itself it is not enough; the

whirling advance of knowledge, now the key to social and economic progress, demands minds that can go far beyond even the most advanced textbook. The Western Hemisphere presents the whole spectrum of educational problems from the eradication of illiteracy to the strengthening and expansion of university education at the highest levels.

For Latin America, the model and the shining example is the United States, which is a country uniquely convinced of the powers of education—one might say that she has dedicated herself not only to the pursuit of happiness but also to the eternal pursuit of academic degrees. At the present time over forty million people, almost a quarter of the entire population of the United States, are full-time students, and there are many million more who are educating themselves on a part-time basis. This pattern is repeated in Canada, although on a less impressive scale. I think it is this pattern, that the other nations in the Western Hemisphere will strive to emulate.

I should like to make two general predictions about 1971. I think, first of all, that by 1971 the teacher will occupy a much higher status in society than he does now. I am thinking here of the teacher in the primary and

secondary schools, where, after all, the battle against illiteracy and ignorance must be chiefly waged.

In Latin America there are now forty million persons of primary and secondary school age, of whom only sixty per cent are attending school and then often only for brief periods. We can, if we choose, go a long way towards solving the enormous problem by 1971. We have before us the chastening example of the USSR, which began its successful programme to eliminate illiteracy under even more un-

promising circumstances.

Whatever programme is undertaken it will be the teacher who determines its ultimate success. We shall need teachers with a strong academic background trained as rigorously as the members of any other profession. And with their new status will come more pay, not as a result of the persistent clamour of teacher organizations, but rather from the acceptance by society of the teacher as a key person.

The second area in which I shall make predictions is the area of higher education. There I predict that the university will become increasingly model of the cosmopolitan community seeking the solution of human problems. To achieve this, the universit



will hand over some of its acquired responsibilities to other institutions, particularly to institutions devoted to advanced technical training. These will turn out in ever-increasing numbers the men and women upon whom the operation of an automated society principally depends—that is, the trained technicians. Universities, for their part, will become more and more aware of their function as intellectual centres where the complex data of modern society is constantly analyzed.

How, you will ask, will these new conditions come about? They will come about, of course, by the power of human thought and planning; and in this process two factors will be of increasing importance: the use of electronic devices, and the circulation of ideas through international bodies such as UNESCO.

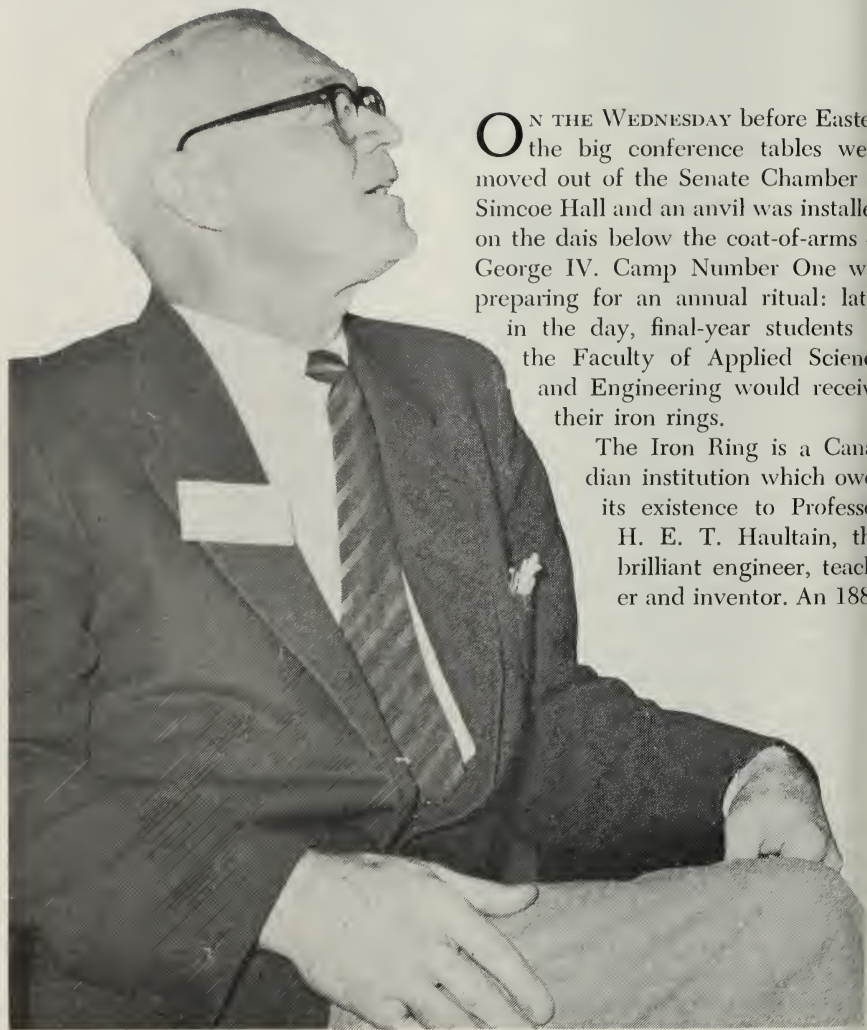
Certainly the next ten years will see electronic devices used boldly and widely. Satellite broadcasting, for instance, can transcend national boundaries; television can break down the artificial barrier of the classroom and the geographic isolation now enforced by jungle and mountain; the “teaching machine” can give to each pupil at the elementary stage a private tutor who is tireless, patient and invariably accurate. These are some of the technical devices that will help bridge the gap between the enormous need and the inadequate human resources with which to meet it. Moreover, these devices will be useful at all levels of education. The teaching machine will be particularly valuable in the learning

of foreign languages. And incidentally, I think that one of the developments in the Western Hemisphere will be the widespread study of Spanish and Portuguese in the north, and of English and French in the south.

The breakdown of national barriers has intensified the need for language study, for we are now more conscious than ever before of living in a world of diverse cultures. And that is why the work of international bodies to which I referred, is particularly important, because they arrange for the interchange of teachers and students. I think, for instance, of a colleague of mine, a sociologist, who has recently been advising the Argentine Government on methods of census-taking; he talks about the problems of the Argentine with the same intimacy and concern that he talks about Canadian problems. In other areas—one thinks, for instance, of architecture, the fine arts, and literature—we in Canada would profit greatly from Latin-American infusions. We have been slow and hesitant to take up our international responsibilities vis-à-vis the Latin American countries, but we are developing a new interest. The lead here may well be given by the five million Canadians of French descent, who are linked to South America by religion and also, shall we say, by a certain cultural *élan*. In 1971 then we shall have a more vivid sense of belonging to the Western Hemisphere; and for this new awareness we shall be largely indebted to the teachers and scholars and to the educational institutions through which they work.

"But Iron—Cold Iron—is master of them all"

THE MEN WHO WEAR



ON THE WEDNESDAY before Easter, the big conference tables were moved out of the Senate Chamber in Simcoe Hall and an anvil was installed on the dais below the coat-of-arms of George IV. Camp Number One was preparing for an annual ritual: later in the day, final-year students in the Faculty of Applied Science and Engineering would receive their iron rings.

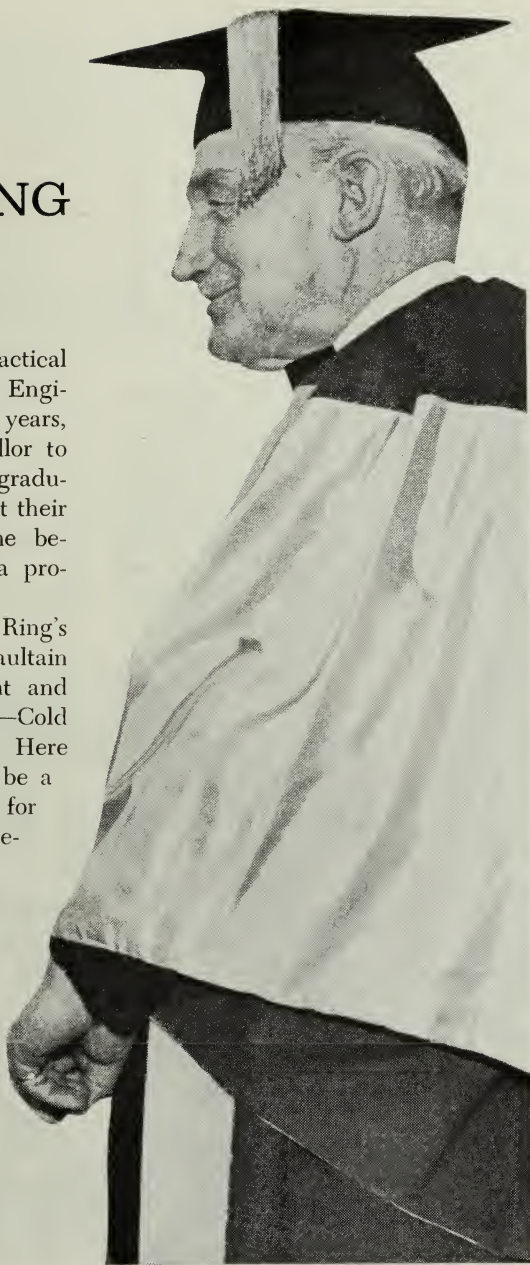
The Iron Ring is a Canadian institution which owes its existence to Professor H. E. T. Haultain, the brilliant engineer, teacher and inventor. An 1886

THE IRON RING

graduate from the School of Practical Science, and Head of Mining Engineering at the University for 30 years, Professor Haultain was counsellor to countless graduates and undergraduates. As he talked to them about their responsibilities as engineers, he became aware of the need for a profession of faith.

Then, according to the Iron Ring's unwritten history, Professor Haultain was reading Kipling one night and came to the line, "But Iron—Cold Iron—is master of them all." Here was the answer! There should be a simple, meaningful ceremony for engineers willing to face their re-

The iron ring is worn on the little finger of the working hand. For W. I. Turner, president of the University's Engineering Alumni, this means the right. For Dr. J. B. Stirling, Senior Warden of the Ritual, it means the left. Dr. Stirling was photographed when he received an honorary degree from the University of Toronto in March. Mr. Turner was photographed at an Alumni meeting last year.



sponsibilities squarely; he would get Rudyard Kipling to write the ritual; and those taking part would be given iron rings as symbols of dedication.

The Ritual of the Calling of an Engineer was written by Kipling and, in the Spring of 1926, the first Iron Ring ceremony was held at University of Toronto—Camp Number One. This year, 30,000 iron rings later, McMaster University was admitted as Camp Number Fourteen.

Applications to form camps are considered by the Seven Wardens of the Ritual, all ex-Presidents of the Engineering Institute of Canada. Usually, for convenience, the camps are associated with a university having an engineering school. The wardens of each camp consider individual

applications to take part in the ceremony from candidates who have completed an engineering course or have been in active practice. Applicants include engineers who have come to Canada from other countries. Most, but not all, successful candidates are university graduates.

Today, in retirement, Professor Haultain has many accomplishments to review. There are his inventions, including machines for separating extremely fine ore particles, which are being used around the world. And throughout Canada, wherever rivers are harnessed or mine shafts sunk wherever gears mesh and things happen, there are men who proudly wear a wrought-iron ring on the little finger of the working hand.



Now Civil and Electrical Engineering will be able to do
what they want to and should be doing

The Galbraith Building

EVENTS SPREAD OVER two days in March marked the official opening of the Galbraith Building, new nerve-centre for the Faculty of Applied Science and Engineering at University of Toronto. Now the Faculty administration, which has been spread through the length of the Mining Building, has compact, efficient office space and the Aeronautical/Astronautical Engineering option gets its first permanent home on campus. Civil and Electrical Engineering will benefit most of all. "These important departments have long been handicapped by their cramped quarters," said Dean R. R. McLaughlin; "now they will be able to do the kind of work they want to do and should be doing."

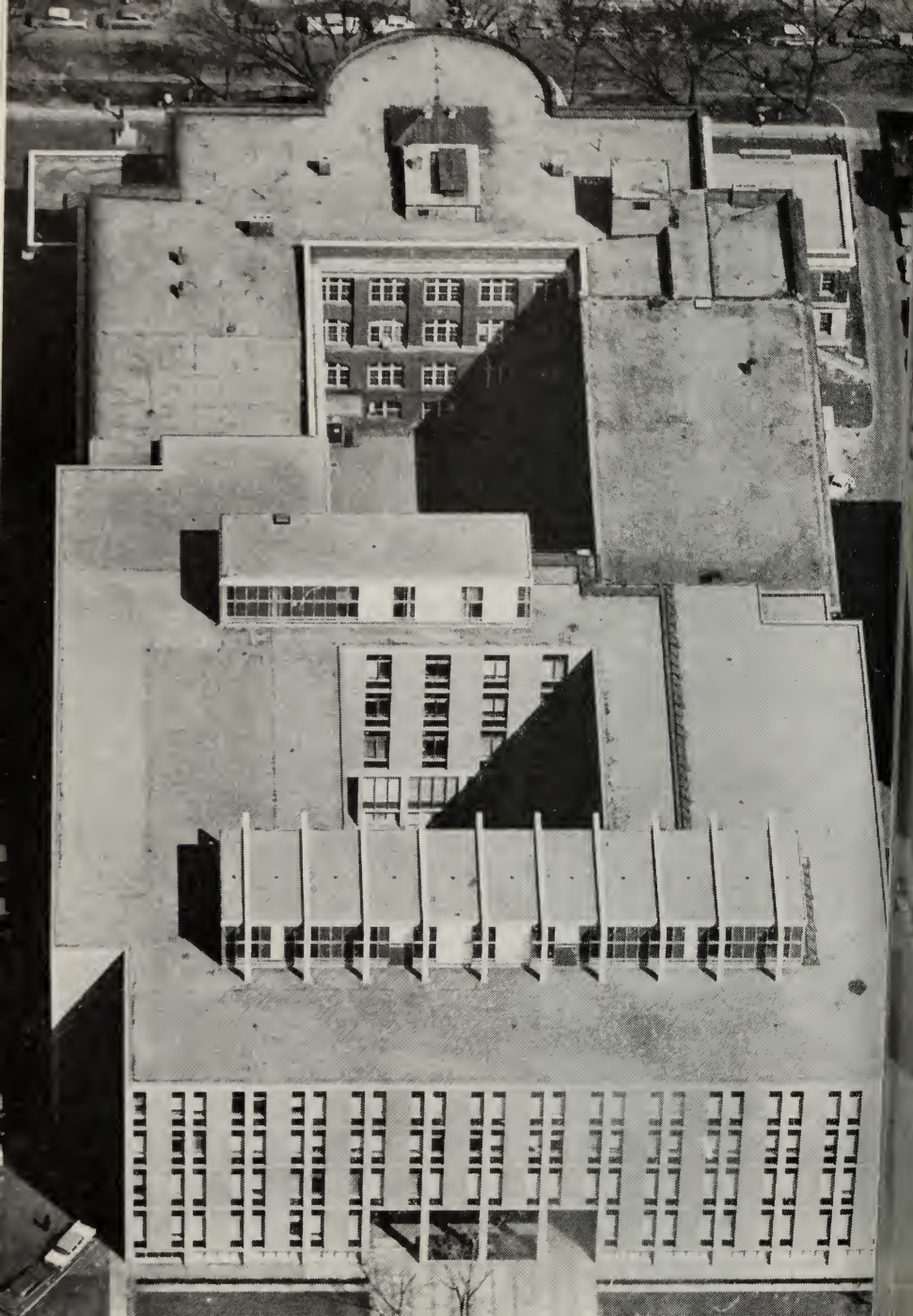
Dr. McLaughlin is the sixth dean. The Galbraith Building is named for the first.

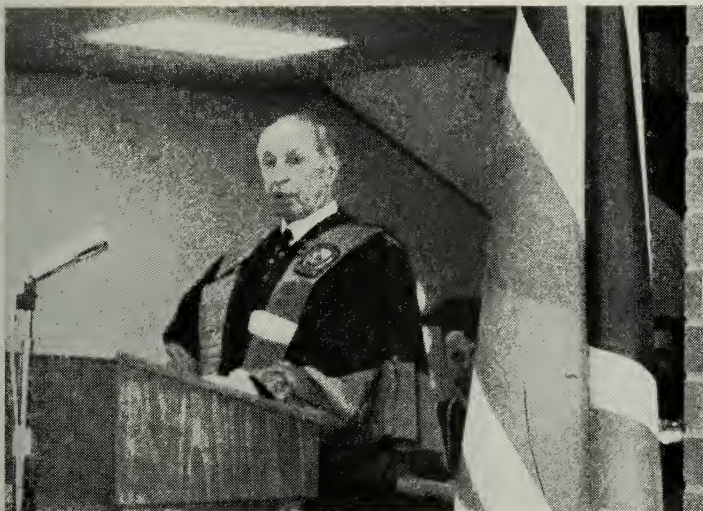
Eighty years ago, when John Galbraith was teaching at the old School of Practical Science, a young man came in to register for a course

in boxing: the only "practical science" he had heard about was prize-fighting! Dr. Galbraith often told this anecdote to illustrate how little was generally known then about engineering courses.

As it has developed in Ontario, stressing principles rather than skills, engineering education owes much to John Galbraith. He was the first professor of engineering when S.P.S. opened in 1878, first principal of S.P.S. when that office was created some years later, and first dean of Applied Science and Engineering when the School became a Faculty of the University in 1906. At one stage, he taught 14 separate courses in civil, mechanical and mining engineering—and supervised drafting and field work as well.

"Dean Galbraith's influence is still felt in the Faculty," Dean McLaughlin said recently. "His policies are often quoted in modern context. This happened at a Faculty Council meeting just the other day."





The Lieutenant-Governor of Ontario, the Hon. J. Keiller Mackay, declares the Galbraith Building open

BIG BUILDING, SMALL CLASSES

NOW ONE PHYSICALLY, the Galbraith Building, facing St. George street, and the McLennan Laboratories on King's College Road, will be an Engineering unit when the West Campus is completed.

Bright, airy and colourful, the Galbraith Building has been designed for small classes. The lecture rooms are square, well lit, well ventilated, and planned for 100 students. Civil Engineering lab parties will shrink from eight students to four or five.

Seminar rooms abound. Graduate students have adequate working space. There are many individual offices for staff members.

The building has built-in facilities for research which include:

A computer section, within Electrical Engineering but available to all Engineering departments, containing both an analog and a digital computer;

Particle accelerators, used in studying atomic structure;

A giant universal testing machine, able to apply loads up to 1,000,000 lb. to structural members 50 feet long. The structural lab which houses this and other machines is three storeys high and 100 feet long, and is insulated so that temperature and humidity can be controlled.



At a reception following the official opening, Mrs. J. Keiller Mackay and Dean McLaughlin chat with one of the many graduates who attended.



The platform party for the opening ceremonies: *From left*, Rev. A. M. McLachlin, the chaplain for the occasion; President Claude Bissell; the Lieutenant-Governor; Dr. F. C. A. Jeanneret, the Chancellor; Dean McLaughlin.

GALBRAITH CEREMONIES

A SPECIAL CONVOCATION and three scientific lectures were among the Galbraith Building opening events.

The evening before the formal opening, honorary degrees of Doctor of Laws were conferred on Paul Hoffman, Director of the United Nations Special Fund; W. P. Dobson, for 40 years head of Ontario Hydro research and testing; Henri Gauderoy, dean of the University of Montreal's Ecole Polytechnique; J. H. Parkin, father of aeronautical research at the National Research Council and

the University of Toronto; and J. B. Stirling, the Chancellor of Queen's University.

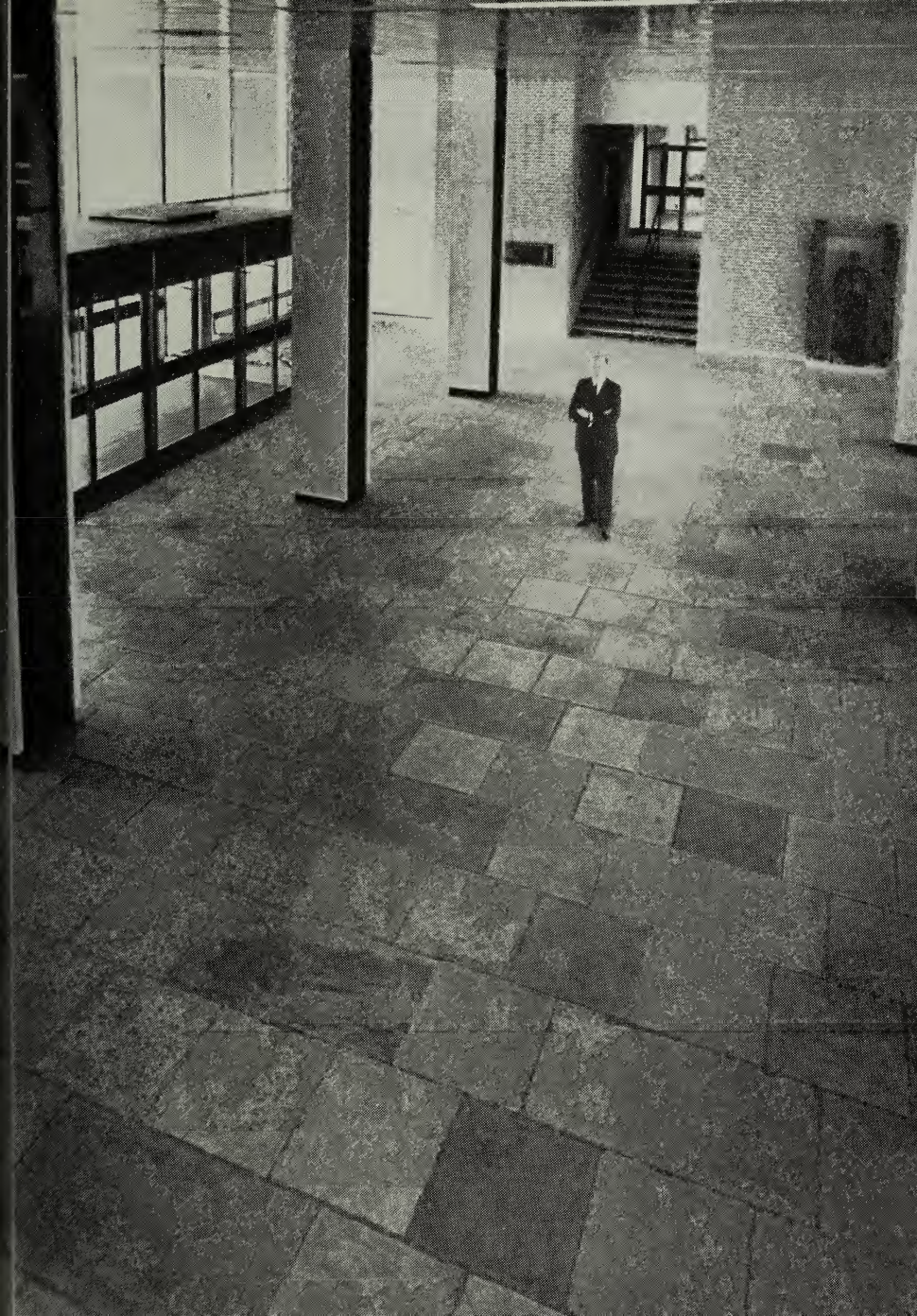
Special lectures in civil, electrical and aeronautical engineering were given the morning of March 7 by visiting experts: R. F. Legget, director of the Division of Building Research, National Research Council; J. R. Pierce, director of research communications principles, Bell Telephone Laboratories; and G. V. Bull, head of the Defence Research Board aerophysics wing.





Down from a door in the old Electrical Building come the names of 13 staff members who shared a single office. Typical of the former cramped conditions was the structures lab, *below*, so crowded with equipment that student parties interfered with each other. Spacious bright quarters of the Galbraith building are reflected in its sunny lobby, where Dean McLaughlin stands, *facing page*. In the background, at right, is a bust of John Galbraith.



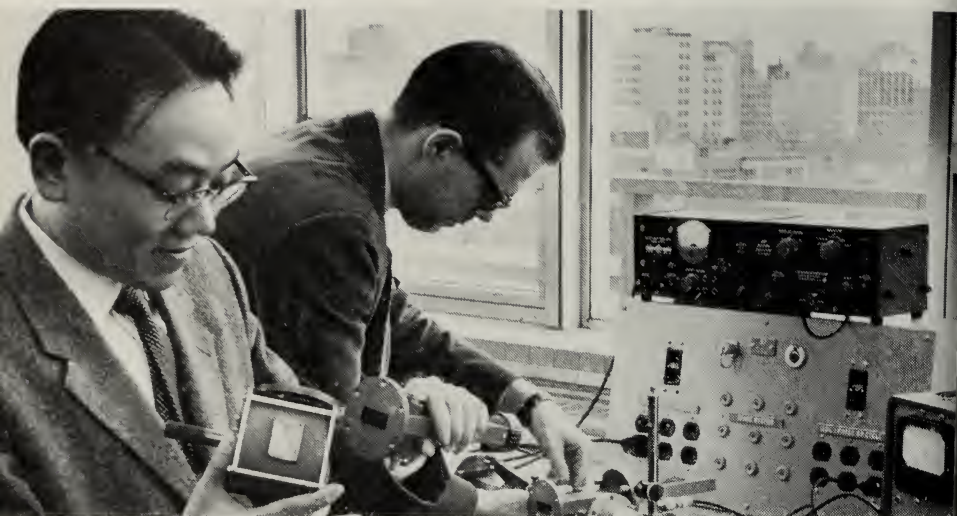




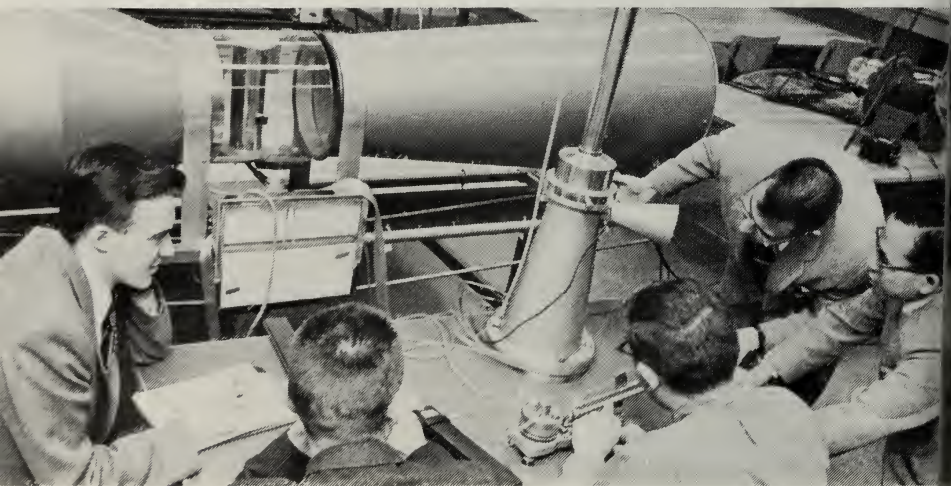
ENGINEERINGLAND is bounded on the south by College street, or the west by St. George street, and on the north by the Forestry Building (which obligingly moved 250 feet up St. George street three summers ago). Convocation Hall, and the Front Campus. Moving east from St. George, the Engineers hurdle King's College Road, the University's "front door", and stop at curving Taddle Creek Road which separates them from the School of Hygiene (not in camera range) and the twin-domed Medical Building. The



Engineers will not take full possession of their domain until Physics, Chemistry, and other departments move to new quarters on the West Campus. At some stage in the Development Plan, historic Baldwin House (at left of photograph, between the Wallberg Memorial Building and the Galbraith Building) may become Alumni headquarters. To the right of Baldwin House is the rectangular roof of the University of Toronto Press printing plant which completes the non-Engineering salient.



Above: antenna designs are tested in lab on Galbraith Building roof, saving trips to Richmond Hill. *Below:* Galbraith wind-tunnel saves undergraduate trips to Downsview. *Facing page:* Civil Engineering students, who once tested strength of soil samples in basement of Mining Building, have this efficient lab.





THE HEADS

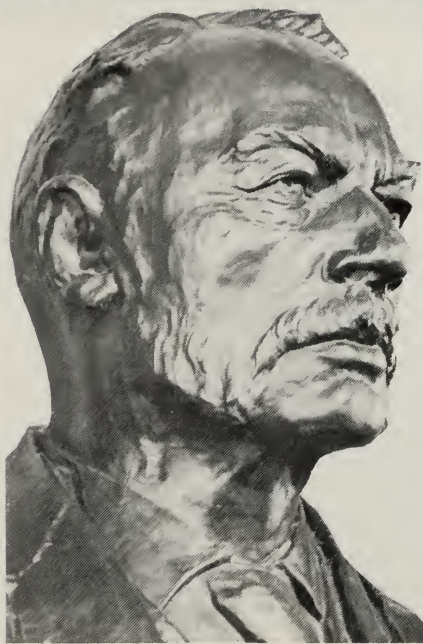
Heads of seven of the eight Engineering departments meet with the Dean. *From left:* C. F. Morrison (Civil), K. B. Jackson (Applied Physics), G. F. Tracy (Electrical), H. R. Rice (Mining), G. N. Patterson (Aeronautical), J. G. Breckenridge (Chemical), G. R. Lord (Mechanical). Professor L. M. Pidgeon, head of Metallurgical Engineering, was absent.





THE COUNCIL

The heart of the Faculty of Applied Science and Engineering is its Council. Here each month 93 professors set policy and, with the Senate's approval, determine courses of study and examinations. Appropriately, the Council Chamber is near the heart of the Galbraith Building. Pleasantly decorated, it is large enough to accommodate all expected staff increases. The old Chamber in the Mining Building was designed for a Council one-third the present size.



YESTERDAY

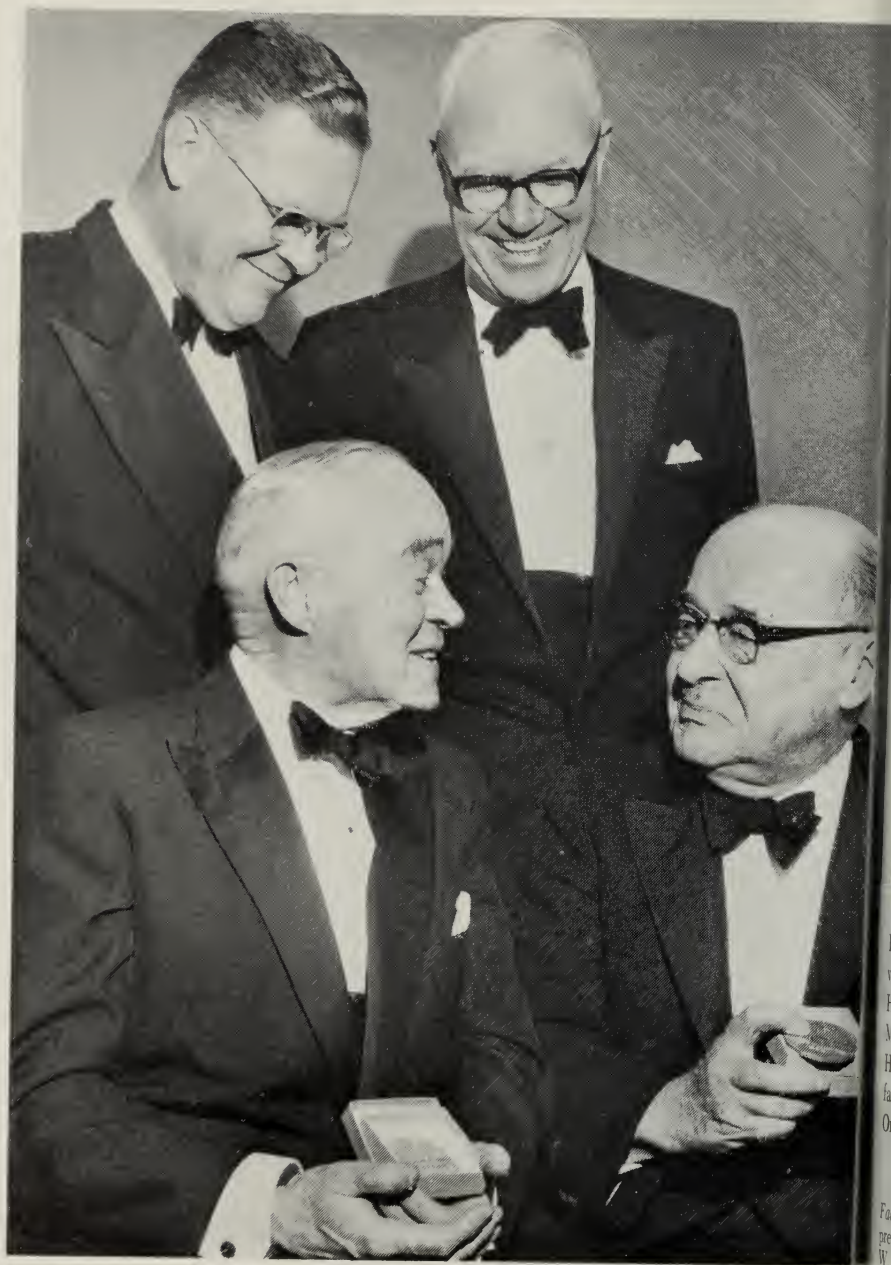
Pictured above in its prime, when parking was less of a campus problem than it is today, the School of Practical Science cost \$94,000 to build. This covered both the original structure, opened in 1878, and the extensive addition built several years later. The only principal S.P.S. ever had (and, to begin with, its only professor of engineering) was John Galbraith, whose bust stands in the new building named for him. For its first quarter century, while enrolment rose from eight students to 482, the S.P.S. building housed every engineering course. In 1903 the Mining Building was opened and, the next year, the Faculty of Applied Science and Engineering was born.

TODAY

Relatively few engineering students now take classes in the S.P.S. building. "Many graduates comment on the abandonment of the old red Schoolhouse with nostalgic regret," said Dean R. R. McLaughlin at the Galbraith Building opening, "but I say to them in all good humour that they would not for long wish to carry on their own engineering operations within it." A Schoolhouse alumnus himself, the Dean had returned two days earlier from a 7,000-mile tour through India with Dean H. G. Conn of Queen's. On a Colombo Plan assignment, they had been studying how Canada could best help the eight regional engineering schools rising there. (Recommendations: some Canadians should join the faculties of the new colleges and some Indian teachers should come to Canada for post-graduate study.)

Dean McLaughlin is seen here in a Delhi street and beside a 70-year-old road locomotive kept as a museum relic in the Delhi Polytechnic Institute.





"We are... the Engineers!"

THE WISDOM, DIPLOMACY, AND ENGINEERING SKILL of Toronto graduates Otto Holden and Charles W. West did much to transform the St. Lawrence Seaway and Power Project from dream to reality. Their accomplishments—which give meaning to the old red Schoolhouse, the new building named for John Galbraith, and the whole tradition of Engineering at Toronto—were recognized earlier this academic year by gold medals from the Engineering Alumni Association.

Mr. Holden, a 1913 Toronto graduate, helped to design 31 generating stations—at Niagara, on the Ottawa, at Long Lac and Ogoki—as the Hydro-Electric Power Commission of Ontario proceeded to develop every major power site in the province. In the St. Lawrence Power Project, culmination of this tremendous plan, he negotiated successfully with 14 individual agencies in Canada and the United States.

Mr. West, who graduated in 1915, chose the federal rather than the provincial service, became known as the "best canal man in North America". Appointed to the St. Lawrence Seaway Authority when it was formed in 1954, he was, in 1959, the last of the original three-man board to retire. In the interval, he had been responsible for the engineering of Canada's \$330,000,000 share in the project.

Gold-medallists Holden and West are two among many of Toronto's 14,000 Engineers whose services to Canada have been outstanding. Some of the more famous include:

McCurdy and Baldwin, the first men in the Commonwealth to fly; R. W. Diamond, who unlocked the wealth of the Sullivan ore body with a flotation process that made the Trail refinery possible; Colonel H. G. Thompson, father of the Royal Canadian Electrical and Mechanical Engineers; George R. Mickle, Ontario's first Mine Assessor; Herrick Duggan, who built the Quebec Bridge after two attempts had failed; Fred Gaby, H. G. Acres, T. H. Hogg and R. L. Heard of the Ontario Hydro.

Facing page: At the left, behind Mr. Holden, stands W. H. Palm, past-president of the University of Toronto Engineering Alumni Association. W. I. Turner, the president, is behind Mr. West,

The bells of Soldiers' Tower will sing for Toronto
on Thursday nights this summer

"You Have to Get Attack . . ."

I TALK TO THE BELLS," said Leland Richardson; "I throw open the trapdoor to the bell loft so the sound is all around me. This is a singing tower, and I want the bells to sing."

On Thursday evenings through the summer, Mr. Richardson will make the bells of Soldiers' Tower sing for the people of Toronto. The first concert will be May 25 and the last September 14. They will begin at 8 p.m. and continue for an hour. Judging by past experience, hundreds of people will walk or drive to the campus to listen.

Mr. Richardson's repertoire of 500 numbers includes folk songs, sea shanties, hymns, musical comedy tunes, classical and semi-classical numbers. Lately, because of the growing number of newcomers, he has been adding European folk songs.

He plays the carillon from a keyboard connected directly by wires to the bell clappers. It's strenuous work:

to ring the five-ton tenor bell takes a 35-pound stroke at the keyboard, and even the smallest takes 1½ pounds. "You have to get attack, rhythm, feeling," he says.

Soldiers' Tower carillon is one of Canada's finest. Its bells comprise two distinct sets: 23 in the lower range, cast in England and dedicated in 1927 to the memory of members of the University community who fell in World War I; and the 19 high bells cast in Holland and presented in 1953 by Lieut.-Col. W. E. Phillips, Chairman of the Board of Governors in memory of those who fell in World War II.

Though a quarter of a century separated the casting of the two sets of bells, they are in perfect harmony.

This summer, Mr. Richardson will have a new audience as carillonneur at the Rainbow Tower in Niagara Falls. In July and August he will play there twice daily—Thursdays excepted!

Facing page: Carilloner Leland Richardson among the bells of Soldiers' Tower



The cars were flatcars, boarded at the side
To keep you from going sideways overboard;
The ends were free; the view was circle-wide
Better than observation-cars afford;
While all the open sky was requisitioned
To make them adequately air conditioned.
—G. H. Needler

A remarkable young man of 95

IN 1936, Professor G. H. Needler turned 70, retired as head of the University College German department, and began a new career as an author. Twenty-five years and a baker's dozen of published volumes later, he is still writing—at present, a set of reminiscences which begin in Upper Canada in the year before Confederation.

At 95, Dr. Needler looks back on his retirement as a day of liberation: "After 45 years devoted to dealing out wisdom, I had time to do something for myself." During his long academic career, he had published only a handful of books; at 70, freed from teaching and administrative

duties, he embarked on a remarkable range of lively and scholarly volumes which have appeared as frequently as two a year, casting fresh light on little-known aspects of history and literature. He has played the literary detective, discovered and edited previously unpublished manuscripts, delved into the early history of Ontario and—perhaps with the greatest pleasure—recounted in verse his own experiences as a militia corporal in the Northwest Rebellion of 1885.

That story begins on March 28, his 19th birthday, when he and other Varsity students who formed Company "K" of the Queen's Own Rifles were routed out of bed at 4 a.m. and,



Professor Needler, *right, above*, was one of the old soldiers General Montgomery was happy to see on his last visit to Toronto. Standing at *right, below*, Professor Needler was photographed with other 1885 veterans on University College steps.



still drowsy from Literary Society election celebrations the night before, were sent westward to fight the half breeds and Indians of Louis Riel.

Their first test came in northern Ontario, where long gaps remained in the new transcontinental railway. For four days and nights in the rugged bush between Chapleau and Nipigon, shivering in 25-below-zero cold, the undergraduate soldiers travelled sometimes by train, sometimes by bumpy sleigh, and once marched 22 miles into the sun's glare across Lake Superior ice. Even where rails had been laid in that stretch, only the sketchiest facilities were available.

One of the light-hearted verses Professor Needler wrote about the experience sixty years later appears at the beginning of this article. His poem was read at a reunion of '85 veterans and later published as "The Battleford Column." He put more emphasis on the miseries of the North Shore trip in "Louis Riel", a prose account published four years ago.

Most of Dr. Needler's books deal with Canadiana, whether they are on the Northwest Rebellion; the poems and drama of John Galt, first secretary of the Canada Company which opened up much of southwestern Ontario; or Colonel Anthony van Egmond, a Dutch officer who survived Napoleon's campaigns and Waterloo, settled in Upper Canada and became a prosperous farmer, and died eventually in a prison cell as one of William Lyon Mackenzie's lieutenants. Dr. Needler's longest book, "Otonabee Pioneers", is a record of

the early days in Ontario's Peterborough-Rice Lake district where he grew up.

He plays the literary detective in two other volumes. "The Lone Shieling" tracked down the anonymous author of that old lament of exiled Scots, "Yet still the blood is strong, the heart is highland, and we in dreams behold the Hebrides." From the metre and other clues, Dr. Needler adduced the first proof since the poem was written in 1829 that it came from the pen of a Scottish doctor-poet, David Macbeth Moir. "Goethe and Scott" traced Goethe's influence on the younger Briton, then offered first evidence that the debt was repaid—that Scott's *Kenilworth* in fact inspired the 72-year-old Goethe to complete his poetic masterpiece, "Faust", by suggesting the motivation of a crucial scene.

Dr. Needler has edited a record of Sir Walter Scott's last months, which was written in Italy in the 1830's and over the years made its way to Toronto. His latest book, published last year, is the translated aphorisms of a noted Austrian novelist, Marie von Ebner-Eschenbach.

How has he come to penetrate so many areas? Some, like the challenge posed by Moir, he encountered first through friends. Others, like his work on pioneer Ontario, stem from many years' interest in which his wife shared until her death ten years ago. To one visitor to his North Toronto home, Dr. Needler explained: "I have just had more fun that most people in hitting on things to write about."

Dean's Dinner . . . from page 47

more I become convinced that my high school teachers were right, that it is a matter of battles, of kings and princes, after all.

There are many things I admire about Frank Underhill, but what I admire most is his readiness to put to one side the intellectual vested interests of a lifetime, to face new facts and new evidence not only fearlessly but cheerfully. This hold on reality has always seemed to me, along with the gift of clarity, to be another mark of the really great scholar. I wish it were not as rare as it is. I remember at a meeting of the Learned Societies at Saskatoon a couple of years ago, jumping into a taxi to get out to hear Underhill lecture, and in the taxi were two individuals whom Harold Innis would have called "jackals of the communications systems" but may more decorously be described as gentlemen of the press. One was B. T. Richardson of *The Telegram*, the other George Ferguson of the *Montreal Star*. We drove like hell to get out to the university on time, and as we arrived at the lecture hall we nearly ran over a little bald figure just going in. It was Underhill, coming to give his lecture. And George Ferguson then said: "Look out, driver—he's the only one left".

It's a tradition for members of the Department of Political Economy to talk about Harold Innis, and I've no intention of departing from it. Innis only spoke one word to me, and that was when I asked him for a letter of recommendation for a fellowship. He

said "O.K." (That makes two words, come to think of it.) I don't believe Innis was much more communicative to his other undergraduate students—though he was to his graduates; nor do I think we undergraduates saw the slightest thing wrong with this. We knew his genius for what it was, we saw no reason to disturb it, and we realized how fortunate we were to be able to sit in his crowded classes and catch what we could of his lectures mumbled over a microphone. These were somewhat unsatisfactory conditions, but we knew we'd be far worse off spending the whole term in comfortable chairs drinking tea or coffee with some academic nonentity. So much for the staff-student ratio. There's a moral here, I'm sure, for the university builders of the 1960s.

I don't know how it was with other years but in my year, the vintage year of '48–4T8—there was a kind of Innisian cult in our class, and at his last lecture with us we presented him with a shield. I checked with its designer the other day—he's now a prominent member of the Department of External Affairs that Innis held in such contempt—to see what we put in it. In one quarter there was, inevitably, a cod fish. In another, an armoured knight on horseback, going up an incline in recognition of one of Innis's more far-fetched doctrines that democracy came to Switzerland because knights on horseback couldn't climb hills. In the third quarter was the book of learning, tilted to one side—the bias of communication. The fourth quarter was entirely blank, in

tribute to Innis's famous concept of unused capacity. He seemed a little disarrayed when we presented it to him. For all I know, we may not have been offering the novel tribute we intended; perhaps each class had been spontaneously arriving at the same idea, and perhaps Innis was wondering what in heaven's name he was going to do with yet another damn shield.

What now impresses me in Innis's work is not, I'm afraid, his ideas, most of which I can't any longer understand, and those I think I understand I disagree with. But what grows more impressive is its integrity. Innis's integrity is not for me shown to best advantage in his ferocious determination to keep out of the service of vested interests, whether political or bureaucratic. In his great debate in 1935 with Urwick and Underhill, vividly described by Donald Creighton in his memoir of Innis, I don't think Innis comes out on top. His integrity, and the scholar's integrity, resides in a kind of commitment other than the commitment to remain uncommitted. It's the commitment, important in an historian but crucial in a social scientist, to inquire into precisely those issues which the majority of his fellow-citizens want to regard as closed. If the politician and the bureaucrat are the great healers of society, the architects of national unity, the social scientist necessarily re-opens old wounds. He becomes the agent of national disruption; and if he hits on something really big, like Marx, or like Freud, he becomes the agent of inter-

national, or transnational disruption as well.

And so there is, or there should be, a certain tension between the social scientist and society, just as there should be a certain tension between the university and the community. He is, in fact, a trouble-maker. He bites the hand that feeds him. I don't want to be misunderstood here. Do not think of the social scientist as a jester. He is not a gadfly. Few spectacles are more distasteful than that of the academic who by intention or otherwise provokes for provocation's sake, titillating the tired businessman by the novelty of his daring. If the social scientist thinks of himself as an entertainer, he will never be taken seriously. And this is tragic, because his work is deadly serious. What could be more serious than slicing into what Maynard Keynes once called "the thin and precarious crust" of civilization? Then meddling with its myths, exposing the sham and subterfuge by which, as Keynes said, it is guilefully preserved? This is serious business, dangerous business. No wonder social scientists leave it, to become social engineers instead, concealing the stresses of their society rather than exposing them. But do not mistake the two. The social scientist is as different from the social engineer as is the dedicated surgeon of Lambarené from the chief of medical research for a chain of drug stores, and in the same way.

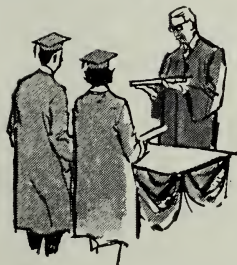
If I were asked today what it is I like about the University of Toronto, why I would rather teach here than elsewhere, I would say this. That first,

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In the belief that the question of educational standards is one of the most vital facing us today, and in the further belief that the process of learning extends through a lifetime, *Sun Life Assurance Company of Canada*, in its Values in Education series, is offering leaflets ranging from 'Why Stay in School?' to 'Adult Education Today'. For the teenager planning his advanced education, for example, there are three leaflets that could prove of interest — 'The Value of a College Education', 'Why Study the Humanities?' and 'Scholarships and Bursaries.'

The leaflets extend beyond the realm of formal education. 'How to Get More Fun out of School' and 'Sports-Tips for Teen-Agers' should appeal to the youngsters. 'Fit! Fat! Fad!' stresses the importance of physical fitness for the 12-20 age group and suggests various exercises to help them attain this ideal. For those who wish to make the most of their retirement years, 'Educating Yourself for Retirement' and 'New Horizons for Leisure Time' should prove helpful.

All these leaflets and others in the series are offered free of charge and without obligation. Bulk supplies are available for schools and other organizations. For a complete set, write: *Sun Life of Canada, Values in Education, Sun Life Building, Montreal.*



SUN LIFE ASSURANCE COMPANY OF CANADA

scholars of excellence—scholars with the instinct of integrity, the gift of clarity and a hold on reality—are rather less rare here than elsewhere, though rare enough. And second, that such scholars are to be found not only in the ranks of the professoriate, but are to be found as well at the stratospheric heights of the University's administration, in its President, in its Dean of Arts and Science, in the principals of its Colleges, whom in defiance of Acton's aphorism, absolute power has not tended to corrupt—or, at any rate, not yet.

NATURAL SCIENCES

This dinner is a celebration. [So began Dr. J. C. Polanyi, Associate Professor of Chemistry.] We are here to rejoice in your achievements in the hope that you too will rejoice in them.

It is in the best academic tradition that someone should then get up to analyze the reasons for our rejoicing; and it is in the best Puritan tradition that all rejoicing should then end.

Well, the damage is already done. It can do no further harm to your digestion or good spirits if I broach a very weighty question: the question of the relationship between brilliance and greatness.

Perhaps I should begin by apologizing for asking this question. I am aware that any civilized, normal, healthy, house-trained individual in our century would disclaim the am-

bition to be great. And yet it must be admitted that we retain our fascination with greatness, and it is against the great that we measure our achievements.

Tonight we have here assembled a group of young men and women of high intellectual achievement (I say nothing of the older men and women); how many will proceed on the path to greatness? Very few, of course, or the word would lose its meaning.

Which brings me to the awkward but intriguing question, what do we mean by greatness? Not simply great goodness, which draws on the resources of the soul. Nor simply eminence which (if earned) draws chiefly on the resources of intellect. But rather the term connotes, I believe, effectiveness.

You have perhaps heard of the case of Archbishop Dubois a great figure in the court of Phillip, Regent of France, in the early years of the eighteenth century. Archbishop Dubois was kicked five times by His Majesty, once because he was regarded as a rogue, once as a pimp, once as a priest, once as a minister of the King and once as an Archbishop. When Dubois failed to leave the court after this barrage of kicks the King asked him what he was waiting for. "I beg your pardon" replied the Archbishop, "I am waiting to be kicked as a Cardinal". So the King kicked him once more, and elevated him to the rank of Cardinal. All of which Cardinal Dubois summed up in later life by saying that "To become

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a great man it is necessary to be a great rascal".

But I think that in saying this he did himself less than justice. Would it not be more accurate to say that "To become a great man it is necessary to know how to suffer kicks graciously"? Or to put the matter a little differently, it is necessary to know how to stand alone. For greatness is solitary. (A fact which, I fear, will always stand between *McCall's* magazine and greatness.)

There is no doubt that Cardinal Dubois achieved greatness by using his wits. To restore the balance let us think for a moment of Joan of Arc, an incomparably greater figure than Cardinal Dubois and yet intellectually so much his inferior that he would have regarded her, with justice, as a witless peasant. At her trial, a child among grown ups, she held her own against one of the most terrifying courts ever assembled. On the Bench beside His Highness the Duke of Burgundy, the noble Lord John of Luxemburg and the Vicar-General of the Lord Inquisitor of Heretical Error, sat, perhaps the most horrible of all, the Faculty of The University of Paris. And this is what the Princess, the priests and the professors had to say in their summing up:

"How serious and dangerous it is curiously to examine the things which are beyond one's understanding, and to believe in new things . . . and even to invent a new and unusual thing, for demons have a way of introducing themselves into such-like curiosities".

This is, of course, undeniably the case. It is horribly dangerous to be curious about things, to invent new things, and believe in new things. And it is a mark of greatness to do so.

Having said this I realize that there is an aspect of greatness that I have overlooked in my dissection, because it is so obvious. Greatness is great, it is magnificent. It is curious, not about baseball and taxes, but about the destiny of man. The great habitually address themselves to the subjects that arouse the greatest passions. They are not a success at tea parties. The demons that they unleash are huge fellows who rattle the tea cups of a hemisphere.

If it is not intellect alone, nor strength of character alone, what is it that makes a man great? I think that the answer is very simple; he has chosen the path of greatness. This is what sets him apart from others with the same intellect and the same strength of character! He has chosen to live his life in the context, not of a town and a family, but of civilization and its history.

Such a great man is Leo Szilard with whom I had several exciting discussions quite recently. It is not too likely that you will have heard Szilard's name. If you have heard his name it is still rather unlikely that you will recognize it as that of a major figure in history. He has always avoided fame, regarding it I think as an unnecessary inconvenience. Only now, seriously ill in a New York Hospital has he suddenly become, in a small way, a public figure. So the



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you will know that I am not giving you simply my own evaluation of him. I shall quote to you from a recent issue of *Harpers Magazine*. It appears that at a party in a university community a month or two ago the guests amused themselves by drawing up a list of men who had played unique rôles in recent history. They finally agreed on five who had done things that could not have been accomplished, in their times, by anybody else. The first four you will have heard of—Lincoln, Gandhi, Hitler and Churchill. The fifth was Leo Szilard.

I should like to tell you a little about him because his life illustrates so well the way in which a combination of high intelligence, a sense of history and the ability to act alone, can lead to greatness.

There was never any doubt about Szilard's brilliance, either in his own mind or anybody else's. From his home in Hungary he went to study science in Berlin, which at the time was the unchallenged centre of scientific thought. There is a story which seems to be authentic, that on his arrival there he told his Professor that he was really only interested in learning the facts; he would make up the theories himself. As a graduate student he rapidly discovered that the business of doing experiments was rather tiresome. So he took to sitting on a park bench outside the research institute and from there he issued directives for everybody else's research, earning for himself the nickname of Herr General Direktor—the general manager. Among the ideas

that he brought to fruition himself was a paper which is now regarded as basic to Cybernetics or information theory (and hence to the whole industry of electronic computers). In another paper he described the cyclotron, long before E. O. Lawrence developed it at Berkeley and received a well-earned Nobel prize for it. In the mid-thirties he was working in the still-new field of nuclear physics at Oxford when Lord Rutherford, the discoverer of the nucleus and the greatest authority on the subject, announced that it was nonsense to suppose that atomic energy could be released on a large scale. Szilard thought the matter over and decided that Rutherford was wrong.

In 1935 it happened that he was visiting my parents in Manchester. With my father he made calculations on the back of an envelope to see what temperature would be reached if a nuclear explosion took place. Needless to say they made a mistake in the calculation and I have here the telegram that Szilard sent from London to correct the mistake:

Miscalculated temperature yesterday by taking 4 instead of 10,000 as exponent of 2 stop temperature obviously about 1,000 to 10,000 million centigrade kind regards Szilard

If there is ever a museum of the 20th century this telegram might perhaps be hung in the entrance hall.

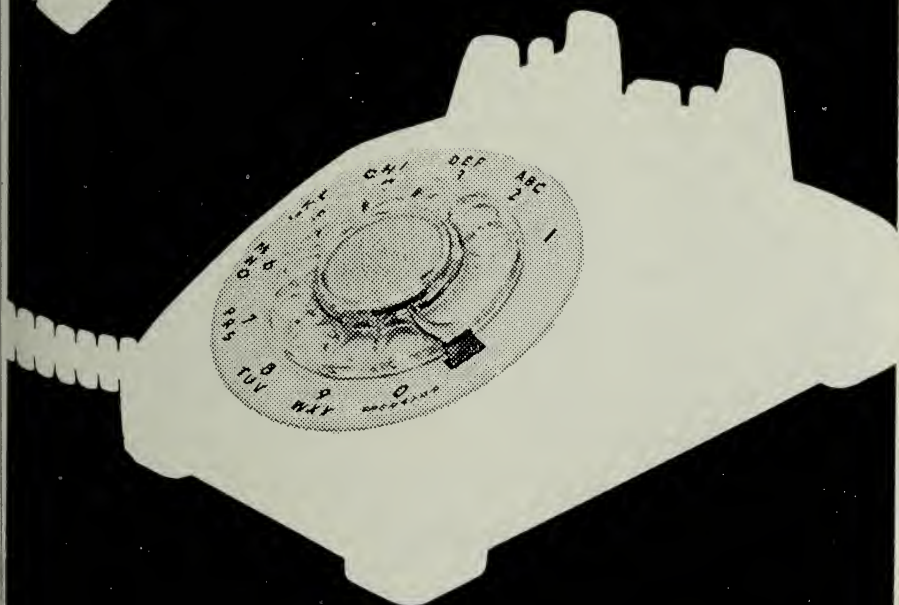
This then is only the beginning of the story. I have not time to tell you the most exciting part: Szilard's secret



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patent on the laws governing chain reactions (on the atomic bomb in fact) which he assigned to the British Admiralty, his personal tour of laboratories to urge nuclear scientists not to publish the results of their researches for the time being, his discovery in 1939 that Germany was contemplating construction of an atomic bomb, his devious approach to President Roosevelt which led to the start of America's attempt to make a bomb, his important rôle as a scientist in the development of the bomb, and then (ironically) his desperate attempts to prevent the use of the bomb against a virtually-defeated Japan, and his early forecasts of the nuclear arms race and the difficulties of arms control. Today, from his hospital room, he is publishing a booklet in which he tries to foresee the major events of the next 25 years.

Now, all this does not give you a picture of Leo Szilard nor is it meant to! It is only intended to illustrate the thesis that the quality of greatness involves the possession, not simply of a high degree of intelligence and creativity, but also of a strong sense of history.

A candidate for Sainthood would, I imagine, be enjoined to live his life in the immediate presence of God. A candidate for greatness, for even a morsel of greatness, must live his life in the presence of history.

I began by saying that the quality of greatness, however it may be achieved, is in essence the quality of effectiveness. To put the matter in perspective I should end by saying that effectiveness, like existence itself, has no intrinsic value. But it does offer the possibility of value—it can be used for good.

THE WONDERFUL WORLD OF HIGHER EDUCATION

U.C.L.A. HAS OPENED the upper three storeys of a formerly all-male residence to women residents. Explained the Supervisor of Housing Service: "The fact that we have 400 more applications than we can handle for Sproul Hall (another residence for both men and women) is evidence that students prefer co-educational housing."

TO SUPPLEMENT FORMAL courses, Dartmouth College is showing 50 old U.S. and British movies no longer available in commercial theatres. "Free flicks", as students soon named them, include "Grapes of Wrath", "Hamlet", "I Am a Fugitive from a Chain Gang", "Oliver Twist", "Red Badge of Courage" and "Miracle on 34th Street."

STUDENTS PROTESTING against a proposal that New York's free municipal colleges begin charging \$300 tuition carried signs, "Who does Nelson think we are—Rockefeller?"

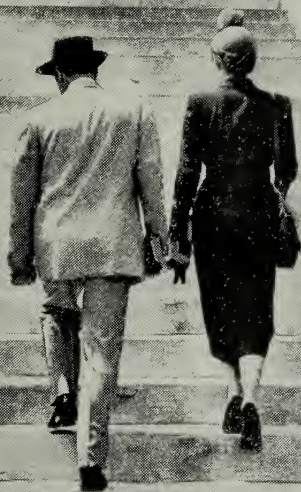
A THREE-STOREY apartment block on the University of Kansas campus, built from the estate of a former professor, is reserved for retired faculty members who want to continue living in an academic climate.

MIAMI UNIVERSITY in Oxford, Ohio, has taken over direct operation of an airport and two planes, uses the aircraft to ferry staff members and bring in replacement parts. Because of roundabout surface routes connecting the campus to other points, the airstrip pays for itself in dollars as well as time.

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too modest. Nevertheless, the average figures for proposed income increases, covering as they do one billion, 300 million people in one hundred different country situations, conceal the exciting possibility that ten, fifteen, or twenty key countries will achieve in the decade ahead a real breakthrough toward *self-generating, self-propelling* economic growth. By this I mean creating economies which provide the means for steady and more rapid self-supported economic progress, while also permitting significant improvements in living conditions for a great many of their people. And nothing is more needed today than examples of additional countries that have achieved this goal under free institutions.

Theoretically, the achievement of this increase in per capita income should be readily attainable—because the underlying reason for underdevelopment is under-utilization of natural and human resources. Practically, it is quite an undertaking.

Each day at the United Nations brings new evidence of the need for much more knowledge of the physical resources of these low-income countries. Not enough is known about their mineral resources, the energy their rivers could provide, the wealth in the soil, the country's industrial potentialities or markets. Yet there is every evidence that these countries have ample physical resources to permit decent lives for their people. A hint of their agricultural potential lies in the fact that farm output in metric tons per person on the North Ameri-

can Continent exceeds the average of Asia by tenfold and of Africa by twenty-fold.

As a specific example of a rich but little used resource I cite the Niger River. A study for the development of that river has been under way and is, in fact, just about completed. There is every evidence that, with the construction of a 150 foot dam, the waters of that river will be available for the irrigation of thousands and thousands of acres of potentially rich land, for the generation of millions of kilowatts of cheap power, and navigation on the river will be greatly improved.

Let me give another specific example from another country—Ethiopia. One of its principal rivers is the Awash. Here again, its waters have been used but little and yet preliminary studies indicate that, with control of the waters of that river, the Awash Valley can become one of the most fertile valleys in all of Africa. In fact, the prospects of this are so bright that a British syndicate signed an agreement with the Ethiopian Government to supply \$35 million of capital for a settlement project in the Valley, provided the intensive survey, now underway with United Nations assistance, measures up to the preliminary findings.

Perhaps the best way to illustrate vividly the all-round contribution which resource surveys offer is to tell you of the one United Nations Special Fund project which has been completed. This was a survey of the needs and resources for electric energy in Argentina. This investigation cost



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the Special Fund under \$300,000. In the completed report of the survey, the hard-headed engineers and economists recommended a total investment of some \$735 million over the next ten years for facilities to provide the electric energy Argentina needs for industrial development and domestic use. The report shows that prospective revenues will fully support this investment.

Certainly, this 2,450 to 1 ratio between "seed money" and potentially sound investment opportunity is much, much higher than normally can be expected. It is fair, however, in my opinion, to estimate that every \$1 of resource survey expenditure may reveal an opportunity for \$100 of sound investment.

As for the human resources in the less developed nations, they have been shamefully neglected. Relatively few of the people who live in these countries have ever had the opportunity to acquire an education. Most cannot even read or write, and only a few have ever held positions of responsibility. Yet the people of the less developed countries *can* be trained to be good mechanics, good farmers, good engineers, good doctors, good administrators.

The size of that task, though, is tremendous. Of the one billion 300 million people in the 100 underdeveloped countries associated with the United Nations, I would guess that around three-quarters of a billion persons at or over school age still cannot read or write. It would be good if they could, but even the

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would be far from enough. Millions upon millions of these people must be given secondary education as well. There are also immense needs for vocational training. And finally, as a critical factor in economic development, we have the necessity to train vast numbers of higher and middle level administrative, scientific and technical personnel.

How many of these are required over the coming decade? Fortunately, the needs of a few of the underdeveloped countries for this skilled manpower have been estimated rather carefully. Thus, Nigeria will need to train over the next ten years 20,000 top-level administrators, professional technicians, managers and business executives. It will also need some 40,000 middle-level technicians—for building and industrial programs, for health services, teaching, and for supervisory positions in government and business.

A rough projection of these requirements would suggest that our 100 underdeveloped countries would need to train in the decade ahead at least 700,000 top-level administrative and professional personnel, and over 1,400,000 middle-level technicians. Let's reduce this projected figure by more than 50 percent and say that one million people must be trained for highly skilled occupations. This is a staggering job, one that is impossible with the resources currently available for it. But there is no time to lose in getting on with the task, for education and technical training must go in advance of significant economic

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development. Happily, as I said, the people have the capacity to learn.

If any further evidence is needed as to the dimensions and complexity of this task of speeding development, it is available in a variety of psychological and political factors which must be taken into account. For example: In a number of the less developed countries, performing manual labour is considered degrading. And in other countries, industrialists, entrepreneurs and businessmen are generally regarded as third-class citizens. In still other countries political turmoil is so intense that economic development is virtually impossible. And in many countries the postponing of consumption today as an investment in a better tomorrow is a novel, if not incomprehensible, idea. In fact, the variety of conditions within and among the countries is so great that each country must be considered as an individual case.

Admittedly difficulties incident to the achievement of the goal I have suggested for the 1960's make it a formidable task. But it can be achieved—provided we take full advantage of the experience gained in the 1950's. As I have clearly indicated, many mistakes were made in that experimental decade by both recipient and assisting nations, which is not surprising. But we must not repeat those mistakes. Now is the time to approach the task with realism and intensified vigour.

As a first and essential step toward the attainment of the proposed goal, we must modernize our thinking

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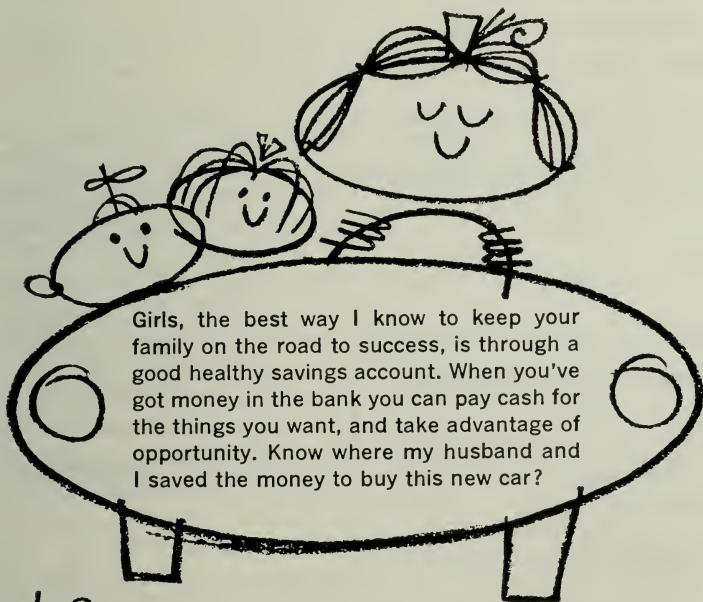
about aid programs. These less-developed countries are the great new economic frontier. If they are to achieve the modest goal of a 25 percent increase in personal incomes in the 1960's, they will require from the industrially advanced countries between \$300 and \$350 billion worth of goods and services, or double what they received in the 1950's. And we in the advanced countries—with our growing populations—will need these new countries as economic partners.

If economic assistance is considered charity, as is too often the case, the effect on the recipient nations is devastating: It saps the self-reliance of the leaders and the people in the low-income countries. Paternalism in international relations, like paternalism in industry, generates resentment and results in half-hearted effort. No low-income country can possibly make satisfactory progress toward self-sustaining growth unless it has dedicated leaders eagerly accepting responsibility for development, and unless the people are willing to make real sacrifices and put their backs into the job. External aid can only help those determined to help themselves.

The correct attitude psychologically and practically for all countries, whether their incomes are high, middle or low, is to accept—in their own self-interest—proportionate responsibility for achievement of that rapidly expanding world economy which is the indispensable framework for their own progress. The first responsibility of each country is to speed its own development. Its



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second responsibility is to assist other nations in accordance with its means. No nation is so rich it cannot profit from the development of other countries; no nation is so poor it has nothing with which to assist other countries.

Second, helping low-income countries speed their development should be accepted as an objective worthy to be pursued for its own sake. We should recapture the wisdom uttered by the late George Catlett Marshall in his Commencement Address at Harvard University in June 1947:

"Our policy is directed not against any country or doctrine but against hunger, poverty, desperation and chaos. Its purpose should be the revival of a working economy in the world so as to permit the emergence of political and social conditions in which free institutions can exist."

Third, programs of technical assistance, especially the surveying of natural resources and the training of people in the skills they must have to make effective use of their rivers, forests, fields and mineral wealth, must be expanded substantially. These programs prepare the way for the greatly increased investment needed by the less-developed countries. Investment, public or private, will not venture into the dark.

Fourth, greatly expanded use should be made of the services of the United Nations and its specialized agencies operating in the developmental field. The needs of the developing nations for pre-investment and investment assistance are so great

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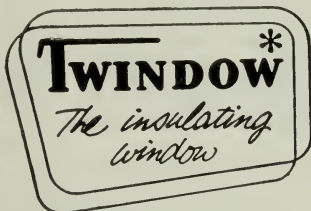
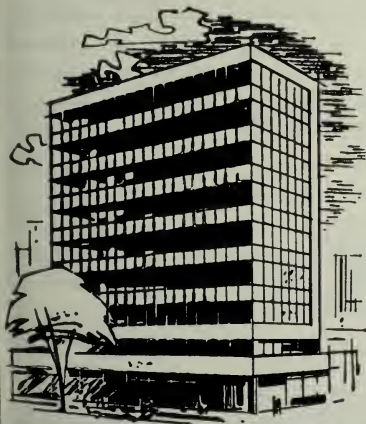
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that the field should, of course, be open for any country, or organization, or group to help in any way it can. But the advantages—political, economic, and technical—which repose in the United Nations and its related agencies should be more widely recognized.

At the United Nations, representatives of countries receiving assistance repeatedly declare their general preference for help through the United Nations—for one reason because from this source it is much more acceptable politically. Further, United Nations assistance is a complete co-operative endeavour, with a voice given to each country whatever its size or wealth, and with all countries contributing to the costs. *On the other hand, the United Nations can be firm with the underdeveloped countries without being accused of seeking any political or commercial advantage.* Further, better results can be obtained through United Nations machinery at substantial savings in money. And in the United Nations and its thirteen specialized agencies reposes the richest experience that can be found anywhere in virtually every field of developmental activity. Furthermore, the United Nations draws on the whole world for the technicians needed for economic development.

These steps which I urge to be taken by no means comprise all that needs to be done. They have been concentrated largely on what the United Nations can do to meet its heavy responsibilities in combatting hunger, ignorance, disease and social



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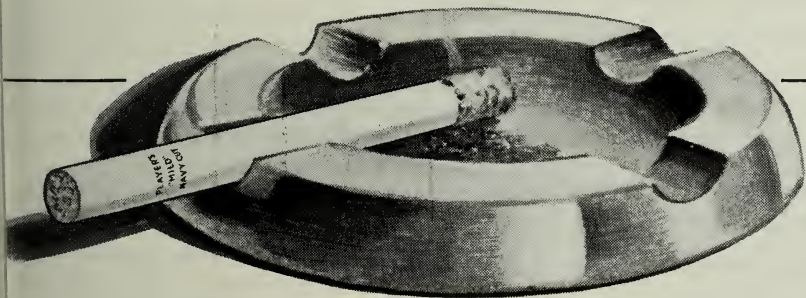
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distress. In addition to its responsibilities in the economic field, the United Nations has, of course, staggering responsibilities in the political field. It must put an end to civil strife in the Congo and be prepared for further outbreaks elsewhere.

If the United Nations is to meet its responsibilities, it must have substantially increased financial support. How much? I can only give my personal guess, which is \$500 million annually. One hundred and fifty million of this should be used for a force to maintain peace, the balance for general expenses and financing a wide range of activities in the economic field. Five hundred million dollars is a large sum, but not so large when compared with the \$100 billion a year which the U.N. member nations are spending for defence, a necessary expenditure under present conditions but one that can only buy time for constructive work.

What could we expect if the work of the United Nations were adequately financed? Speaking first of the economic field, we could, I am certain, within the decade of the 1960's build up such a momentum in our war against poverty, illiteracy and chronic ill health that by the year 2000 victory would be ours.

Could we expect a peaceful world by 1970?

Probably not, but dangers would have been reduced, and we might be well on our way in creating an orderly world community where peace could prevail. And that, ladies and gentlemen, would be a joyous achievement



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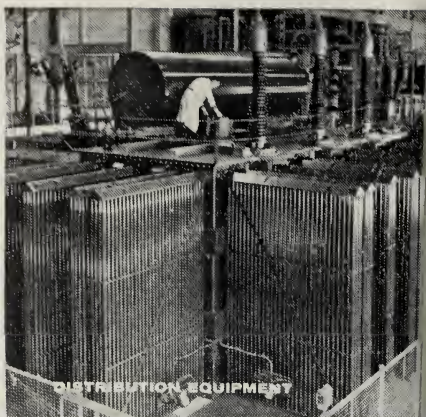
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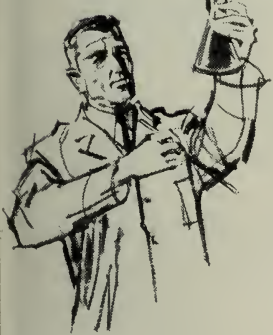
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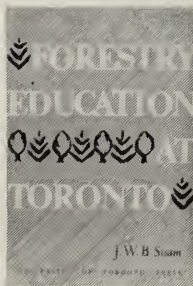
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TORONTO'S DEAN OF FORESTRY

WHY DID CANADA, where the forests touched the life of almost every pioneer, wait until the 20th century to move into the field of forestry education?

Some of the answers may be found in the new book by J. W. B. Sisam, Dean of the Faculty of Forestry at University of Toronto. Dean Sisam admirably achieves his primary objective — to record the history of Canada's oldest university forestry faculty from its inception in 1907 until 1960. His book is sprinkled with names, personalities and anecdotes likely to strike a responsive chord among forestry men and graduates of other Toronto facul-



The goal: a harvest for evermore

Fraser MacDougall

Forestry Education at Toronto, Dean J. W. B. Sisam, 116 pages, University of Toronto Press, \$5.

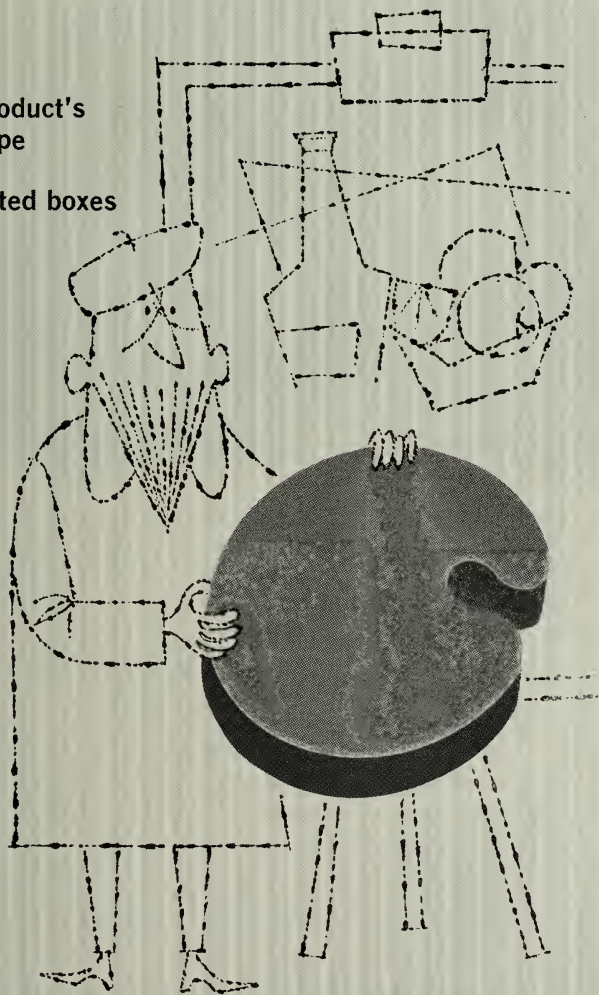
The reviewer is Chief of Bureau for Canadian Press at Ottawa and the father of E. Bruce MacDougall who graduated from the Faculty of Forestry last Spring with the gold medal of the Canadian Institute of Forestry and is now studying for his Master's.

ties as well. But he has produced far more than a summary of the annals of the faculty, setting out tersely and clearly the background for slow public acceptance of the need for professionally-educated foresters.

It was not until this century that Canada had any forestry schools although the country's life was bound up with the forests from the first settlement. The Toronto faculty launched in 1907, was the first.

One reason for slowness lies in the basic attitude of the Canadian pioneer. The settler's first aim was to clear the land of trees so that he could grow crops, generally unaware of the now

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known fact that tree-bearing soil is often poor farmland.

The land-clearing pressure remained long after pioneer days. As recently as the 1890s, an Ontario government official reported that the province was regarded by many as "a purely agricultural country, in which timber was not considered a profitable crop."

This clear-the-land approach may also have contributed to a careless approach to forest fires. A handy way to get rid of trees was to burn them.

Adding to this settler pressure on the forests was the growth of the forest industries. Year by year after their start in the first quarter of the 19th century, the industry faced growing demands for wood for saw-mills and later for pulp, paper and paper products.

Far-sighted men came to realize that the forests could not stand this

pressure forever, unless conservation measures were adopted.

That, in brief, formed the background for the campaign that brought Toronto's Faculty of Forestry into being. Dean Sisam credits the Canadian Forestry Association with contributing more than any other group towards getting across to governments and public the urgent need for professional foresters.

The Toronto faculty itself owes much to Bernard Eduard Fernow, a German-educated forester who became its first dean and guided the faculty until 1919, Dean Sisam writes.

Dr. Fernow, first chief of the Division of Forestry in the United States Department of Agriculture, established the first U.S. professional forestry school at Cornell in 1898.

He helped develop interest in the idea in Canada by frequent lectures



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and speeches. Two sets of lectures at Queen's University almost gave Kingston Canada's first forestry school. But it went to Toronto after a Royal Commission studying the affairs of the University of Toronto in 1906 recommended that Varsity enter the field.

The University Senate gave academic authority to the forestry course in a statute passed May 13, 1907. That fall courses began under Dean Fernow and two lecturers.

Dean Sisam indicates that the winning of the battle to establish a forestry school didn't win the war to conserve the forests. Many—and this includes men in forest industries and government—were slow to accept the idea that the main task of the professional forester is to manage the forests so they will produce a harvest of wood in perpetuity.

C. D. Howe,* who came from New England and joined the faculty staff in 1908, succeeded Dr. Fernow as dean. Dr. Howe retired in 1941. His successor was Gordon G. Cosens, the only one of the four Toronto forestry deans who was a Toronto graduate. He took his degree in 1923 and in 1927 became the first graduate student to complete requirements for a master's degree at the University.

In 1947, Dr. Cosens resigned to enter the forest industry and Dean Sisam, a graduate of the University of New Brunswick, succeeded him.

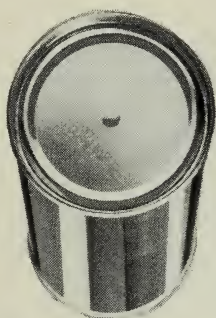
But the story of the deans is only

*No relation to the Rt. Hon. Clarence Decatur Howe who also came to Canada from New England.

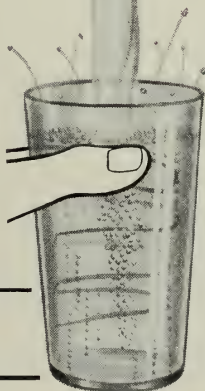
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part of the whole story. The faculty graduated 840 professional foresters from its start until the 1960-61 term. Beginning with one graduate in 1908-09 it hit its high of 90 in 1949-50, peak of a rush that began after the Second World War and then subsided in the 1950s.

At the University, the faculty has occupied two homes. Until 1925 it shared a building on Queen's Park Crescent with the Department of Botany. Then it got its own building, a three-storey structure on St. George Street which, in 1958, was rolled a short distance north to make way for the Galbraith Building, new headquarters of the Engineers.

Field work shifted from place to place until the early 1940s when it found a long-range home in the University of Toronto Forest — 18,000 acres in Haliburton County, about 150 miles north of Toronto.

The University itself owns only a small portion of the 18,000-acre forest. The rest is owned by the Crown in the right of the Province of Ontario and the whole is managed by the Faculty of Forestry.

The University Forest is more than a place for faculty field work. It accommodates courses for the Ontario department of lands and forests staff and is coming into increasing use for research work by the faculty and by provincial and federal authorities.

Dean Sisam's book is an obvious "must" for the library of any Toronto forestry graduate. It is useful reading for anyone interested in forest conservation as well.

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Fellowship Winners Choose Toronto

Woodrow Wilson and Canada Council awards illustrate
the University's strength in the Humanities and Social Sciences
at both undergraduate and graduate levels

ALTHOUGH MEASURING THE TANGIBLES and intangibles of academic greatness may never become an exact science, there are some acceptable criteria for deciding whether a university is first-rate, and approximately where it stands in the world of higher education. Important among these are achievements in graduate studies, and in the Humanities and Social Sciences at both undergraduate and graduate levels. Attention was focussed on these areas at Toronto this year when Sir Hugh Taylor visited the University to receive the Doctor of Laws degree.

Sir Hugh is President of the Woodrow Wilson National Fellowship Foundation which in 1961 made more than 1,400 awards at a cost approaching six million dollars. There were 10,453 candidates from 1,100 colleges and universities.

"I am proud of the University of which I have become an honorary graduate," Sir Hugh told Convocation. "I note with pride," he continued, "that the University of Toronto has received nearly three times as many of our fellowships as have her two nearest Canadian Woodrow Wilson rivals, McGill and the University of British Columbia. I congratulate the University and my fellow-chemist, Dean Andy Gordon, that Toronto's score in first choice of graduate school by fellows

appointed for 1961-62 is 19, again tripling McGill."

Each fellowship covers fees for the first year of graduate work, plus a \$1,500 stipend, plus dependency allowance for wife and children, plus \$2,000 for the Canadian or U.S. university the candidate elects to attend. Candidates must be seriously considering college or university teaching as a career. Students in the Natural Sciences are eligible, but support goes

primarily to those in the Humanities and Social Sciences.

Born in Lancashire and a graduate of the University of Liverpool, Hugh Stott Taylor was on the staff of Princeton University for 42 years. He was knighted in 1953.

Presenting Sir Hugh to the Chancellor, Dr. F. C. A. Jeanneret, for his degree, President Claude Bissell noted that Princeton had made him Professor of Chemistry, Head of that department, then Dean of the Graduate School. "This combination of offices," the President said, glancing at Dean Gordon, "is not unknown to us."

Dr. Bissell listed Sir Hugh's principal fields of research as surface catalyses, adsorption at surfaces, photochemistry, and chemical kinetics. "I am told," he added, "that this is comparable to an English scholar becoming an authority on Beowulf, Shakespeare, Emerson, and James Joyce."

At the first session of Alumni College in Hart House next morning, the President referred to Sir Hugh's comments and said that he, too, had some observations to make about Toronto's position as the senior university in Canada for research in the Humanities and Social Sciences.

The President was acutely aware of this role in his capacity as Chairman of the Canada Council, he said. Asked to choose a Canadian university to attend, Canada Council fellows on the pre-Masters level select Toronto in by far the greater number of cases; even on the pre-Doctoral level, where there is complete freedom of choice, Toronto is still a major favorite.

WOODROW WILSON FELLOWS:

TORONTO's Class of 1961 captured 26 fellowships to rank fourth on the continent. The top eight universities:

Harvard	36	Cornell	24
Princeton	32	Stanford	23
Yale	31	U.C.L.A.	18
Toronto	26	Columbia	18

Fourteen winners elected to study at Toronto in 1960-61 in preference to other North American universities. The second choice in Canada was McGill with five. This year 19 have chosen Toronto.

CANADA COUNCIL FELLOWS:

The 127 Ph.D. fellows for 1960-61 were free to study anywhere. Eighty of the 83 M.A. fellows were restricted to universities in Canada. Their choices:

Ph.D. Fellows:		M. A. Fellows:	
Sorbonne	21	Toronto	30
Toronto	20	Laval	13
London	13	U.B.C.	8
Harvard	10	Montreal	7
Oxford	6	McGill	5
Others	57	Others	20

Among Ph.D. fellows staying in Canada, Laval was second choice with five and McGill was third with three.

Current History lesson:
17 university graduates among
the Congo's 14,000,000 people
were not enough to prevent
an African tragedy



TWO HUNDRED COULD HAVE WON THE DAY

Hugh Taylor

THROUGHOUT the unhappy situation that has reigned recently in the Congo, the one area that has remained a haven amidst the turmoil is the university, Lovanium. This offspring of the ancient University of Louvain, was established seven years ago in an American-type campus outside Leopoldville. This year, the first doctor, the first lawyer, and the first engineer will graduate.

Lovanium's Rector, Monsignor Luc Gillon, said that if only there had

been two hundred graduates of Lovanium on Independence Day, a year ago, the chaos and tragic events could have been averted. When independence came, the Congo had only 17 university graduates in a population of 14,000,000. Also, the rate of growth is retarded by the absence of a secondary school system. As the Rector informed me a few weeks ago, there are vacancies in professorships due to the return home of Belgian professors and it would be politic to

This article is an excerpt from Sir Hugh Taylor's address to Convocation when he received his LL.D. degree at Toronto. (See the two preceding pages)



Receiving Toronto's Doctor of Laws degree along with Sir Hugh Taylor were Dr. George Gilmour, *left*, who has since retired as President of McMaster; Dr. J. Kenneth Galbraith, U.S. Ambassador to India (*see page 43*) and the Honourable J. Keiller Mackay, shown with Dr. F. C. A. Jeanneret, the Chancellor, on the facing page.

Presenting Dr. Gilmour, President Claude Bissell said he was "the consistent champion of a young person who is sometimes in danger of being forgotten in the more rarefied ramifications of higher education—the undergraduate student".

His citation for the Lieutenant-Governor referred to his Scottish heritage and continued, "True to the ideals that nourished Aberdeen, Edinburgh, Glasgow and St. Andrews, he has been a friend and supporter of Canadian universities, with perhaps a special bias for St. Francis Xavier and Dalhousie, his Alma Maters, and Toronto, which has done its best to adopt him and is now happily legitimating the relationship."

fill these vacancies by non-Belgian nationals.

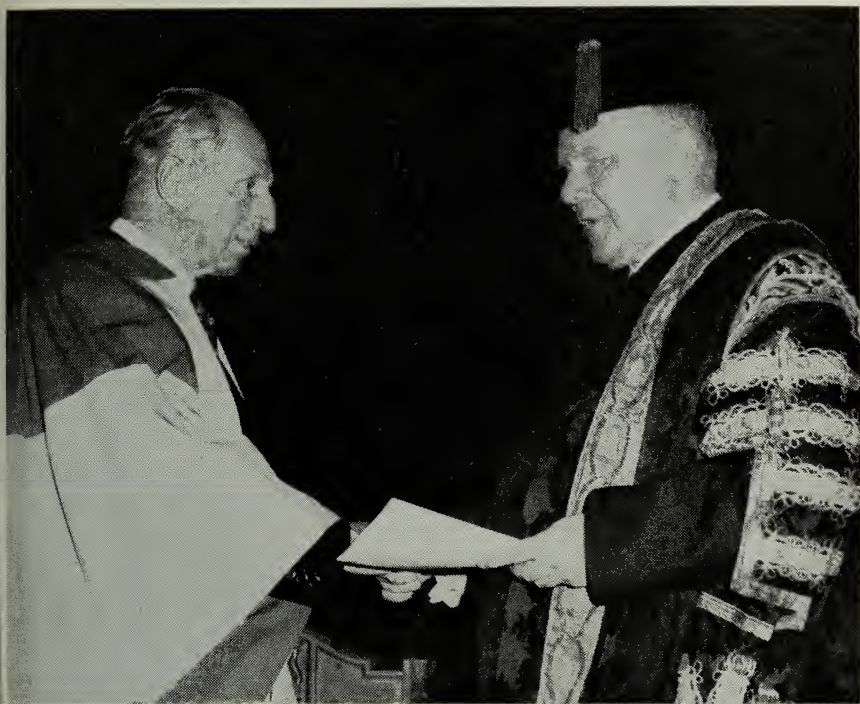
I have no doubt that this example from the Congo could be matched in many other areas of the world.

Those of us who have lived our lives predominantly, if not exclusively, in the 20th century have been witnesses of two revolutions, the one scientific, the other political. The scientific revolution has shrunk our world and has provided us with two alternatives, either to develop our capacities or to extinguish them.

The shrinkage of the world by scientific revolution has abetted the politi-

cal revolution. Colonialism is being displaced by an ardent nationalism even in countries ill-prepared for conscious national development, in a world in which, due to the scientific revolution and its consequences, there is an urgent need for a drive to erase nationalism, to promote unity. Whether that unity will be achieved in freedom or in subservience to authoritarian dictates remains the central problem of the evolutionary process of today.

In each of these revolutions, the university-trained product has played a significant if not a dominant role. In both these revolutions the need for



university-trained personnel will become even greater.

On the home front, also, needs are multiplying. Let us take mathematics as an example. The University of Toronto is rightly proud of its distinction in mathematics. One or two decades ago, all the product of the graduate schools in mathematics would pass mainly into the teaching profession. Now the universities, and especially the small colleges, are finding it increasingly difficult to find teachers of mathematics. In the automation-world towards which we are now heading, with complex computer de-

vices, the range of opportunities opened to trained mathematicians has expanded enormously and the universities and colleges are feeling the pinch. What is true of mathematics is true to different degrees along the whole range of graduate studies from aeronautical engineering to zoology. That is why graduates of more than 150 universities are enrolled in Toronto's School of Graduate Studies. That is why also one sees at Toronto the planning for major expansion which, by the end of the 1960's, will provide facilities for an enrolment of 22,000 students.

When a troubled mind signa

METAPHORICALLY, THE YOUNG WOMAN shown festooned with wires on the facing page is a direct descendant of the Canadian trapper of the 1820s who staggered into an army surgeon's shelter one day with a gunshot wound in his stomach. The wound was large enough for Dr. William Beaumont to study the trapper's digestive process while healing progressed—and to see how the stomach changed with the man's emotions.

The young woman, a nurse, is demonstrating how University of Toronto psychiatrists today are using electronics to study much more subtle and complex reactions to stress than Dr. Beaumont could hope to do. The wires fastened to her skin lead by way of amplifiers to pens which chart the rhythm of tiny electric currents inside her brain and muscles. The pens record on graph paper the change in heart beat, oxygen intake, and skin temperature.

The nurse was photographed while helping to illustrate research procedure for visitors attending an open house at the Toronto Psychiatric Hospital, operated by the Ontario Government, and one of the University's nine teaching hospitals. She has considerably more paraphernalia attached to her than is normally used to obtain a single set of readings.

Members of the University's department of psychiatry use electrodes to record the heartbeat and neural currents of an unborn child and so study responses to the mother's emotions. If the mother is alarmed by a sudden noise, her heart will beat more rapidly, and—after 90 seconds to three minutes—so will the child's. Nobody knows why there is a blood connection between mother and child but none of nerves.

In time, these studies may reveal whether a child's mind can be affected by a mother's prolonged emotional stress.

OS





GADGET CREATES STRAIN ENDURED BY A STUTTERER

This Open House visitor is trying out equipment which reproduces speech defects mechanically. As she reads from the card in her hand, her voice is filtered through the mechanism below and her words are fed back via earphones a split second late. Confused, she speaks louder and finally gets so tangled up that she can't carry on. Primarily for research, the equipment sometimes is used to show parents the problem faced by a child who stutters.

during pregnancy. At present only healthy mothers are under observation. Later on, expectant mothers who are mentally ill, alcoholics, or who have a history of bearing retarded children will be studied.

Periodic catatonia is being investigated, too. Victims of this illness are brought to the hospital in a stupor which lasts for days. Then they return to apparent health. Days, weeks, or months later they become insensible. The cycle is so definite that, once it

is determined for an individual, his next attack and recovery can be predicted to within 24 hours.

Research at Toronto has shown that periodic catatonia can be relieved by regular large doses of thyroid hormone. Doctors think the illness originates somewhere in the pacemaking portion of the brain which regulates the rhythm of life, including hormone production. Recently a woman patient was discharged after years of suffering, secure against future

attacks as long as she takes her daily medicine.

Another cycle, of much shorter duration, has been found in some forms of schizophrenia and other mental illnesses. Here, the fluctuations are in the patient's oxygen metabolism and the blood circulation in his capillaries. When both are at an ebb, the patient has hallucinations and carries on conversations with imaginary persons; when metabolism and circulation are at their height a few minutes later, he appears normal. Having discovered this cycle, the department of psychiatry is trying to learn how to control it. One method appears to be through the rapidly growing family of psychotropic drugs.

Screening these drugs before they go on the market is yet another project of the department, working in this field under University-Provincial sponsorship with doctors from Ontario hospitals in Whitby and Toronto and from St. Michael's Hospital, Toronto.

Professor J. W. Lovett Doust, who heads this area of physiological psychiatry, says the science is returning to the organic orientation it had before Freud. (Psychiatry, incidentally, is one of the oldest subjects studied on the campus; long before the Viennese doctor introduced analysis, it was being taught at King's College, forerunner of the University.)

Research in psychiatry really involves every aspect of the life sciences, from sociology and social anthropology on the one hand to neuroanatomy and biochemistry on the other. The Uni-

versity's department of psychiatry, headed by Professor A. B. Stokes, is involved in many of them, where necessary calling on members of other departments of the University. Among its research areas are child psychiatry (do youngsters respond better to individual or group therapy?), psychosomatic medicine, stuttering and other speech defects, and treatment of the criminally ill, including sexual deviates.

While new frontiers open in research, the teaching demands on the department also are growing. The 600 medical undergraduates, who receive psychiatric instruction in each of the four clinical years, petitioned successfully last year for an increase in the number of first-year hours in this subject. The department also offers a four-year postgraduate course leading to a specialist's certificate, in which 61 physicians are enrolled. Overseas students, including many from Africa and Asia, come to Toronto for advanced training. Special courses for graduate students of psychology, nursing and social work, and for undergraduates in nursing, occupational therapy and speech pathology also are offered. In all, the departmental staff gives 12,000 hours of tuition each year, with direct or indirect financial assistance from the Ontario Department of Health.

In the planning stage is a new 13-storey Psychiatric Hospital for the southwest corner of the West Campus. When built by the Province of Ontario, it will provide a new headquarters for the department.

E. A. Corbett has sketched an affectionate portrait
of a man who could reconcile the irreconcilables

He Remained an Academic to the End

Claude Bissell

Sidney Earle Smith, by E. A. Corbett,
University of Toronto Press, \$2.50.

IN THIS BOOK Dr. Corbett succeeded in doing what he set out to do—which is the basis, although not the ultimate criterion, of literary excellence. That purpose was to give a vivid impression of the man, to catch the personal accent, and to show the way in which he appeared to his friends and his associates. This is not a book based on meticulous research, or a patient historical reconstruction; nor is it a major contribution to the history of higher education in this country. It is, however, an accurate record of a career, based on sympathetic insight and on a knowledge of the background which frequently derives from direct personal experience. Dr. Corbett knew Sidney Smith well, and the portrait is drawn with admiration and affection, but there is no suggestion of the official rhapsody or of the measured apothecosis—charac-

teristics from which his more substantial study of Dr. Tory is not completely free. No doubt the full story of Sidney Smith's contribution to higher education in Canada will be eventually recorded and assessed. Indeed, part of the task has already been accomplished in Professor Morton's admirable history of the University of Manitoba, from which Corbett quotes. But in the meantime it is good to have this lively and affectionate portrait of a man who made a deep impression on everybody with whom he was associated.

Although Corbett has not tried to write an educational monograph, he has included the more formal contributions that Sidney Smith made to education. Indeed, from this little book one can derive a clear impression of the major contribution that Smith made. It was, in brief, a constant and continuous upholding of the humanistic approach to education as

the means for revealing and developing the human mind and spirit. He was never opposed to professional education; he was himself a product of two professional schools, and he always asserted that he experienced some of the finest humanistic teaching in the law schools at Dalhousie and Harvard. But he was opposed to professionalism, that is, the yoking of education to a specific utilitarian end. These ideas

are not new and revolutionary, but during the decades that Sidney Smith held high academic office it was perhaps easier to proclaim these ideas than to practise them. Sidney Smith both proclaimed and practised them. He did a good deal to save the Canadian university from the progressive weakening of the Arts faculty and the accompanying gold rush into the undergraduate professional school that has characterized so much of American education.

Corbett's study brings out another general concept of wide interest. The burden of the idea is contained in the quotation from Morton where he refers to Sidney Smith as the type of the new university president: "Dr.



Smith possessed all the qualities of the new type of president which was emerging in Canadian universities, the administrator president, flexible to the ways of the world, yet still academically acceptable—"a reconciler of irreconcilables", as President Klinck of the University of British Columbia was to say in welcome to the new president.

This is certainly true; and yet Sidney Smith had about him some of the qualities of the old nineteenth century university president—demanding, paternalistic, with a touch of clerical certitude. But at Manitoba, and more



especially at Toronto, he learned to adjust to the administrative demands of a complex institution and to work harmoniously and effectively with a group of senior colleagues.

Corbett touches briefly upon one matter that frequently engaged Sidney Smith's attention. He records a conversation in which he and Sidney Smith came to the conclusion (not altogether regretfully) that they were not intellectuals. But the fact is that Sidney Smith was an intellectual in the only sense in which that word has a valid meaning, namely that he was passionately interested in ideas, in searching out the reason for a given action or course of events. He was always most at home with colleagues who gloried in the play of ideas, with men like Pete McQueen, E. K. Brown and Harold Innis. Yet he did not agree with the popular image of the intellectual as a solemn, self-assured oracle. This was one of the reasons why he baffled journalists during his days at Ottawa. He belonged to no stereotype. He was something at once more simple and more complex: a

highly intelligent man with a flexible point of view attempting to get the measure of a new and complex job. In this sense he remained an academic to the end, cheerfully acknowledging his own errors and misunderstandings, concerned only with finding the answer that would most completely cover the facts.

This book will, of course, be of primary interest to Sidney Smith's academic colleagues, but it is not without general interest. I am thinking particularly of the first chapter, about Sidney Smith's boyhood in Port Hood and Windsor, Nova Scotia, which is written with all the gusto and pride of a fellow-Maritimer who had a similar background. Then, finally, there is the moving story of Sidney Smith's last days. Death came suddenly and unexpectedly; but there is an element of tragic foreshadowing in the account of the last conversation he had, in which he explored with his oldest and dearest friend some of the ultimate problems that face a man who elects the tortuous path of public life. Dr. Corbett is illuminating in his account of Sidney Smith's short career as Secretary of State for External Affairs. It is idle to speculate on what might have been, but Corbett indicates very clearly that Sidney Smith was fast approaching the position of confident mastery that he had long since attained in the academic world, and that he would have become an eloquent and flexible spokesman for the free nations of the world.

Left: Dr. Sidney Smith, who had been President of University of Toronto since 1946, congratulated Dr. Claude Bissell, his close friend and former Vice-President, when Dr. Bissell was installed as President of Carleton University. This was in February, 1956. In the following year, Dr. Smith was appointed Canada's Secretary of State for External Affairs and in July, 1958, Dr. Bissell succeeded him as President at Toronto. Dr. Smith died in 1959.

Mama's



MRS. HENRY FORMOSA WITH KHARA AND RENYA

Love of scholarship vies with the family budget
as the main reason for continuing at university

Graduation Day

MANY A FATHER, kneeling before the Chancellor for his degree, has recognized the wail of his own offspring in the gallery. Last Commencement, however, there seemed to be more than the usual quota of youngsters on hand, and some were there to watch not father, but mother graduate.

Three-year-old Karen Watanabe and her brother, *below*, added an Oriental touch. "I elected myself the bread-

winner when my husband returned to university," their mother explained. "Working at Defence Research Board, he had seen the advantage of a post-graduate course in physics. But first I had to complete the nursing course which I left when I married. My parents took us into their home and they have been looking after the children."

Mrs. Henry Formosa, *facing page*, gave up teaching in Toronto public schools after her third child was born



MR. AND MRS. AKIRA WATANABE WITH LARRY AND KAREN



THE BERREVOETS FAMILY

but a rapidly growing family did not keep her from evening courses in the Extension Division.

"Studying has been difficult at times," she said, "but it has made me a better wife and mother and it is a lot better than watching television."

"I had looked forward to this all my life, and nothing was going to stop me," Tiina Berrevoets, *above*, said after graduating in Dentistry. Son Peter John barely made her pause on the way. To ease the work load, she and her husband John, an engineer born in the Netherlands, shared their two-bedroom apartment with a housekeeper. Even so, there were many late nights with Tiina studying in the

living room. Mrs. Berrevoets plans an associateship for a year, then perhaps private practice, and certainly more children.

After she had almost graduated from another honour Arts course in 1953 (she married instead), Eileen Balsky, *below*, discovered that Anthropology was her true academic passion. This year she got her degree through University Extension, working half-time on cancer research at Women's College Hospital as well. "I just can't be a full-time housewife," she explained.



MRS. EILEEN BALSKY AND DIANA

ALMA MATER OF AMBASSADORS

FOR RUSSIANS, GERMANS, AND JAPANESE, in Heart of Empire and in newly-born nations of the Commonwealth, the voice of Canada has a Varsity ring. Altogether, 17 Canadian diplomats with the rank of Head of Mission are University of Toronto graduates. Listed below are eight Ambassadors, four High Commissioners, and one Minister who are serving abroad in the diplomatic tradition established by the University's Vincent Massey, Lester Pearson, Hume Wrong, and G. H. Riddell. The four Heads of Missions presently at Ottawa have represented Canada overseas in the past and probably will again.

PAUL AUGUSTUS BRIDLE, B.A. '37, Ambassador, Turkey.

WILLIAM FREDERICK BULL, B.Comm. '28, Ambassador, Japan.

GORDON GALE CREAN, B.A. '36, Ambassador, Yugoslavia.

GEORGE ALEXANDER DREW, 1913-15, LL.D. '52, High Commissioner, United Kingdom.

JAMES GEORGE, B.A. '40, High Commissioner, Ceylon.

GEORGE IGNATIEFF, B.A. '36, Assistant Under-Secretary of State for External Affairs.

WILLIAM ARTHUR IRWIN, B.A. '20, Ambassador, Mexico.

ROBERT ALEX. MACKAY, B.A. '20, Ambassador, Norway.

JOHN ALEX. MCCORDICK, B.A. '38, Minister, Czechoslovakia.

ARTHUR R. MENZIES, B.A. '39, High Commissioner, Malaya.

HERBERT O. MORAN, B.A. '32, Director General External Aid.

ESCOTT MEREDITH REID, B.A. '27, Ambassador, Germany.

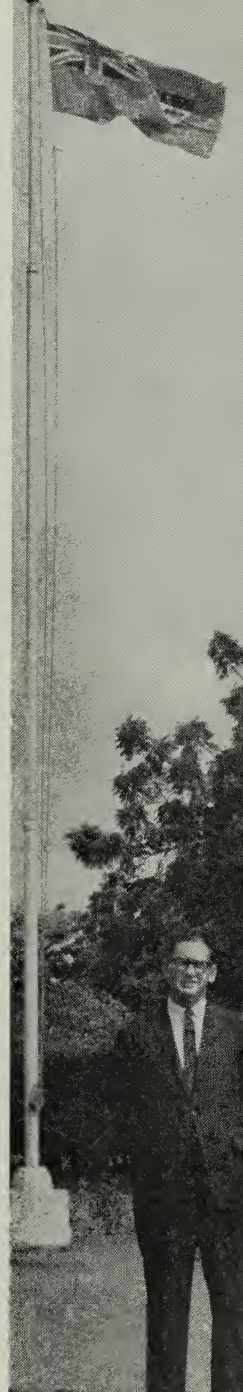
SEAMAN MORLEY SCOTT, M.A. '22, Head, Historical Division.

ARNOLD CANTWELL SMITH, B.A. '35, Ambassador, U.S.S.R.

GORDON HAMILTON SOUTHAM, B.A. '39, Ambassador, Poland.

JOHN BENJAMIN CLARK WATKINS, B.A. '26, Special Duty.

BRUCE MACGILLIVRAY WILLIAMS, B.A. '41, High Commissioner, Ghana, seen *right* under his Ensign at Accra.



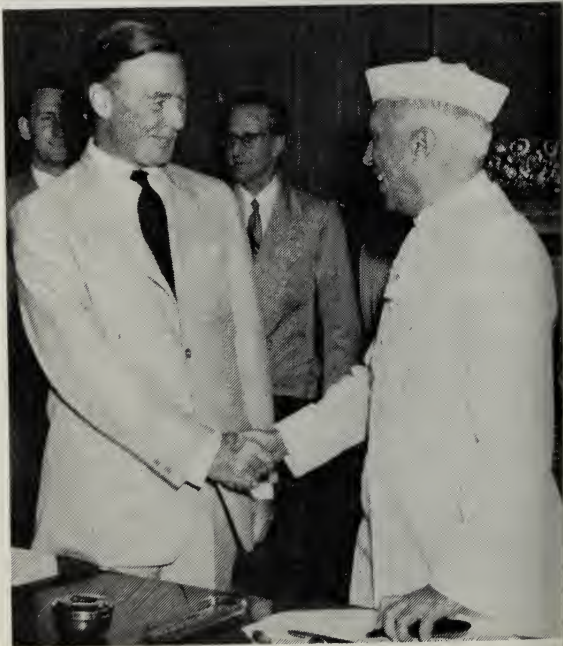


PRAGUE:

J. A. McCordick, *right*, followed three circuitous trails from his native Toronto to Prague Castle, where, as Canadian Minister, he reviews Czech guard of honour. *Education* Toronto, Cambridge, Vienna, Paris and Heidelberg. *Army Service* the U.K. and Middle East. *Diplomatic posts* Belgrade, Moscow, Berlin, and Madrid.

BONN:

Escott Reid, *above and right*, won many prizes and scholarships as an undergraduate at Varsity and still others as a Rhodes Scholar at Oxford. He has devoted himself to the public service for 30 years. Before taking up his German appointment in 1958, the Ambassador had key roles in United Nations, including service on the executive commission that brought it into being, and was our High Commissioner to India for five years. The photograph with Mr. Nehru was taken in 1957 after he and the Prime Minister had signed an agreement between Canada and India to build an atomic reactor near Bombay.





KUALA LUMPUR AND RANGOON:

The first link between Arthur Menzies, *above*, and the Orient was forged with his birth in Changte-ho, Honan, in 1916. With degrees from University of Toronto and Harvard, he joined External Affairs in 1940. Sent to Tokyo for peace treaty negotiations, and later to Havana, he was given two posts, High Commissioner to Malaya and Ambassador to Burma three years ago. Here he calls on the Sultan and Sultanah of Selangor.



MOSCOW:

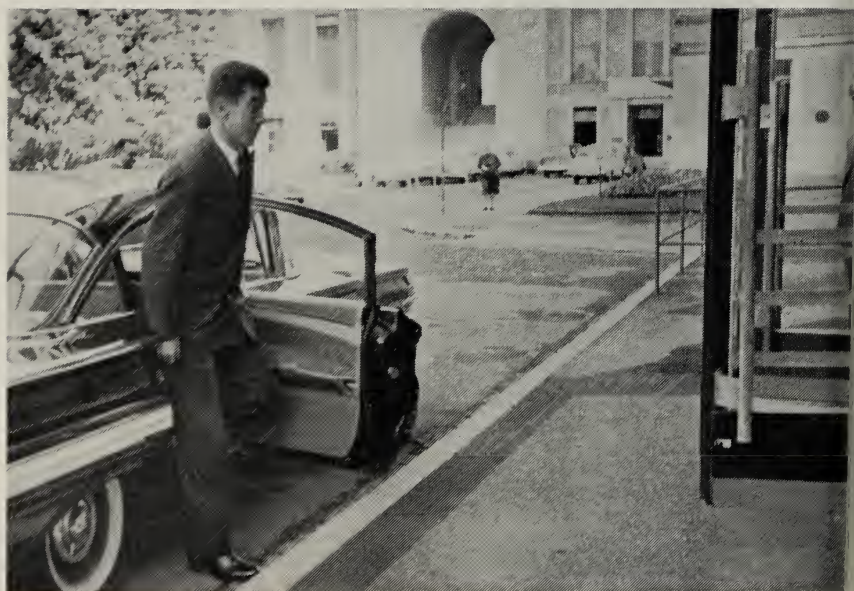
The Kremlin and some people of Russia provide the background for Arnold Smith, our Ambassador to the U.S.S.R. In the Class of '36, he won every scholarship in sight, graduated a year early with a

Rhodes. "Our civilization," he writes, "is much healthier than in those days of depression, wishful isolationism and appeasement. The Western democracies are facing up to serious challenges much better now." He says he learned of the



techniques and feel of politics in U.C. Lit and Hart House debates. "I would not willingly have missed Varsity for the world," he observes, "but I reject the defeatist view that college years are the best in life. Each year should and can

be more enriching than those before." For Arnold Smith, professor, editor, and diplomat in many of the world's hot spots, the years since he graduated from the University of Toronto have been enriching indeed.



TOKYO:

At *right*, Canada's Ambassador to Japan, Wm. Frederick Bull, stands in the Canadian Embassy garden in Tokyo. At *left* he is seen receiving the Japanese Emperor and Empress when they visited Canada's exhibit at an international trade fair. The Ambassador's wife also is a Toronto graduate (Marjorie Eoll, U.C. '28). A son, Roger, also U.C., is a Rhodes Scholar. A daughter, Frederica, was the Head Girl at Trinity and won the Governor-General's medal. Said the Ambassador: "We have a typical foreign service family—four children, each born in a different country."



ANKARA-GENEVA:

Canada's Ambassador to Turkey, Paul Bridle, was photographed in Geneva where he is a member of the Canadian Delegation to the Conference on Laos. At *left*, he is seen leaving his car outside the Palais des Nations.

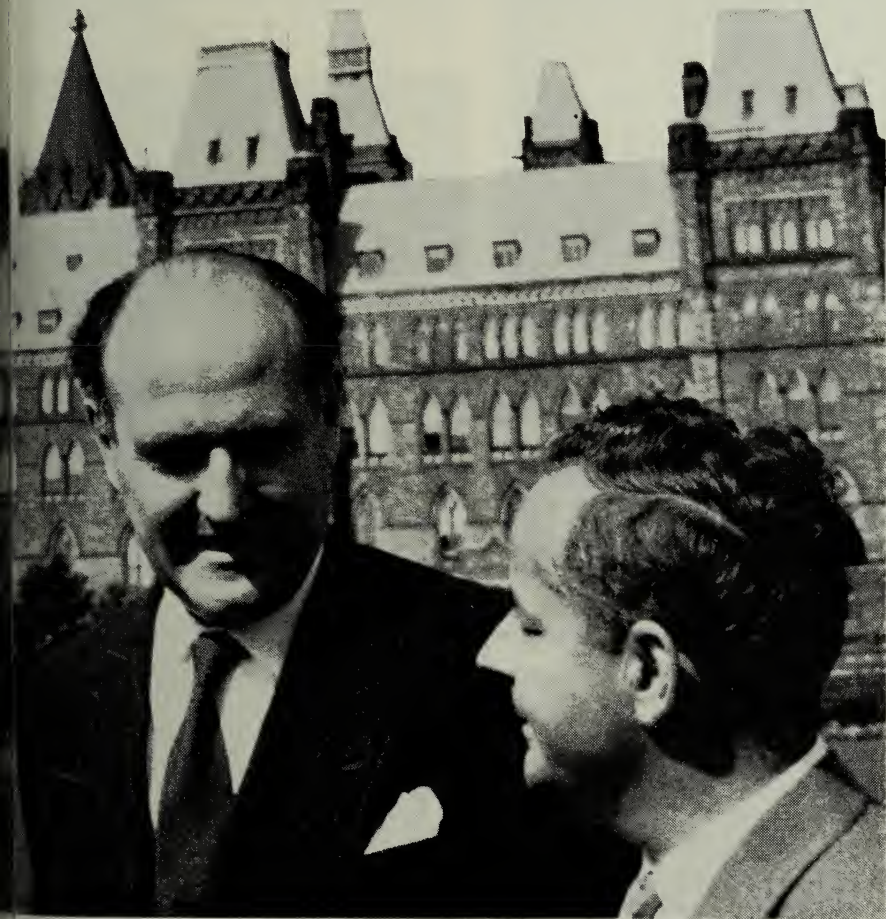


S. M. SCOTT

J. B. C. WATKINS

HEADS OF MISSIONS ON PARLIAMENT HILL:

Now posted at Ottawa, three Heads of Missions who have served as Ambassadors or High Commissioners and may again, greet Arthur Menzies, *right*, a colleague home on leave from Southeast Asia. Another photograph of Mr. Menzies appears on page 33. Beside him stands George Ignatieff, Assistant Under-Secretary of State for External Affairs: many members of the University family will note his resemblance to brother Nicholas, Warden of Hart House from 1947 until his death in 1952. A Rhodes Scholar from Varsity, Mr. Ignatieff has served in London, Washington, New York, and Belgrade. S. M. Scott, *extreme left*, heads the Historical Division after service in London, Berlin, New Delhi, and three years as High Commissioner to Pakistan. J. B. C. Watkins, formerly Ambassador to the U.S.S.R. and Denmark, formerly Minister to Norway and Denmark, is on special duty.



GEORGE IGNATIEFF

ARTHUR MENZIES



OSLO: Veteran diplomat sails home as

Left: Late this summer, R. A. MacKay and wife were photographed aboard ship, homeward bound, from Oslo where Mr. MacKay has been stationed as Ambassador to Norway and Iceland. A B.A. (1920) from Toronto, Ph.D. from Princeton, and LL.D. from Dalhousie, Mr. MacKay was a professor at Cornell and, for 20 years, Professor of Government and Political Science at Dalhousie. He is a Fellow of the Royal Society of Canada. Mr. MacKay joined External Affairs in 1943. He was Permanent Representative to the United Nations for five years before taking up his appointment in Oslo in 1950.

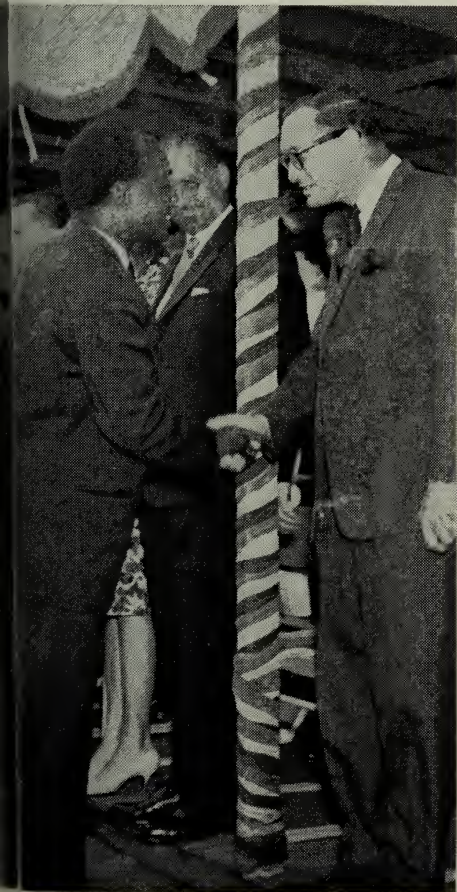


MEXICO CITY:

Right: Ambassador W. Arthur Irwin is seen with the President of the United States of Mexico after presenting his credentials last year. He had served previously as High Commissioner to Australia and Ambassador to Brazil. Journalist turned diplomat, Mr. Irwin wrote for both the *Globe* and the *Mail and Empire* long before their merger and was Editor of Maclean's Magazine for 17 years. In 1950 he entered the public service as Chairman of the National Film Board.

ew ambassador leaves for BELGRADE

don Gale Crean, *right*, a B.A. of '36, is seen in the Chancellor, Dr. F. C. A. Jeanneret, on visit to the campus shortly before leaving for Yugoslavia and his first ambassadorial post this autumn. After graduation from Varsity, Mr. Crean continued his law studies at Oxford and was called to the bar at Gray's Inn, London, in 1939. Then came five years in the British Army. He joined External Affairs in 1945. Belgrade will be unfamiliar to Mr. Crean for his first overseas posting was as Charge d'Affaires there. He also served in London and Paris and has headed Defence liaison for the department.



ACCRA:

Left: Ghana's Prime Minister, Kwame Nkrumah, is greeted by the Canadian High Commissioner, Bruce MacGillivray Williams, at a Canadian reception in Accra. A B.A. in 1941, Mr. Williams joined External Affairs when the war ended, served in New York, Geneva, and New Delhi before being sent to Indochina in 1954. Most of the next three years were spent there, the third as Canadian Commissioner, Vietnam. His appointment as High Commissioner to Ghana came in 1959.



LONDON, WARSAW, COLOMBO, OTTAWA:

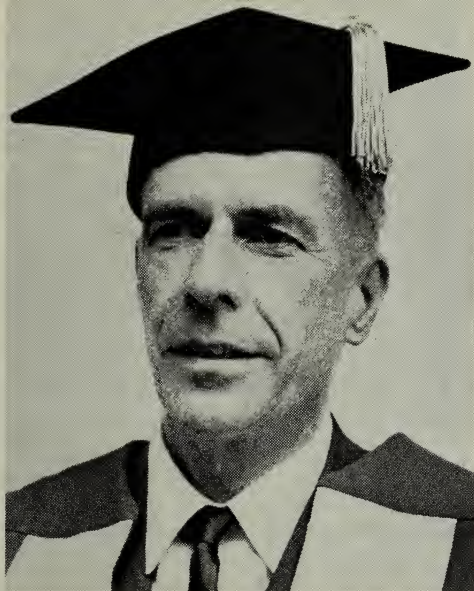
The Queen arrives for dinner at the London home of Canadian High Commissioner to the United Kingdom and is escorted up the steps by her host, the Hon. George Drew. Col. Drew enrolled in University College in 1913, but went to war in 1915. On his return he entered Osgoode Hall and his Toronto degree, an LL.D., was not conferred until 1945. His Varsity ties have been close, however, particularly during his years as Prime Minister and Minister of Education for Ontario. Only three Heads of Missions were prevented by geography or other circumstances from joining this Old Boys' pictorial reunion: G. H. Southam, Ambassador to Poland; H. O. Moran, now posted at Ottawa; and—the fourth Rhodes Scholar on our list—James George, High Commissioner to Ceylon. A photographic postscript is planned for them in a future issue.



MR. GEORGE MR. MORAN MR. SOUTHAM

NEW DELHI:

Diplomat-Graduate No. 18, Harvard Professor, and U.S. Ambassador to India J. Kenneth Calbraith, *facing page*. His first Toronto degree was a Bachelor of Science of Agriculture. He received an LL.D. and addressed Convocation last June.



A Political Sure Thing

J. Kenneth Galbraith

WE ARE WITNESSING the increasing polarization of world politics as between the unrighteous and the self-righteous — and the absence of any room in between. But another and even graver gulf divides mankind — that which separates the very rich from the very poor.

What caused the people of Western Europe and this half of this hemisphere to launch their economic revolution when they did? And why did so much of the rest of the world fail to participate? If there is genius in our

well-being, something which we occasionally concede, then it is the genius of our parents and grandparents who saw that the last century was a far better time to have economic development than now.

The last century could view any achievement which unabashed pride and regularly did. That was because there was nothing better with which it need be compared. The steam locomotive, the paddle wheel steamer and the Crystal Palace could be the wonders of their world. No one had

This article was the main section of Dr. Galbraith's address to Convocation

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WE (ONETIME CANADIANS) are, as you know, both the nicest and the most neglected of the national minorities in the United States. Italians, Poles, Jews, and Puerto Ricans are always treated with respect and, at election time, with rapt admiration. No one ever says a nice word about us millions of expatriate Canadians. The praises of Pulaski, Garibaldi and Eamon de Valera are fulsomely sung but no mention is ever made of Laurier or Sir John A. Macdonald. The more fortunate minorities came to the United States in search of freedom. We Canadians are suspected even by Canadians of having gone for the money.

—Dr. J. Kenneth Galbraith

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anything better. In South Asia today the bicycle represents an enormous gain over the pounding of naked feet in the dust. And the DC-3 airplane, as a means of travel, represents a very decent advance over the bullock cart. But other countries have automobiles and turbojets and so there can be little pride in pushbikes and piston planes. A government that insisted upon them could easily come to seem eccentric or archaic.

Economic and social policy also favored the early beginners. Unions in the last century were primitive or non-existent and so were social welfare laws. Savings could be found, and capital created, by the convenient device of taking it out of the hides of the workers. And the workers could be told that their beneficent contribution to progress—low wages leading to high profits and high investment—was a product of natural law. There

were no better organized workers elsewhere in the world to prove by their example that this wasn't necessarily so.

The nineteenth century was also more tolerant of both error and trial and error, and it would make far more use of that benign institution, bankruptcy. Of the two great Canadian railroad systems, one owes its origins almost entirely to promoters whose optimism was matched only by their absence of economic judgment. When the extent of their error became evident, it remained only to default. Canada then got the railroad. The English investors who contributed to this incipient Colombo Plan got neither dividends, principal nor any identifiable gratitude. One may well reflect on what would happen were a twentieth-century government to be as cavalier in its borrowing and repayment from the World Bank.

Ideology also favored the nineteenth-century development for it was far more pragmatic. It did not occur to Canadians that they were risking social perdition, and possibly freedom itself, by putting the canal system in the public sector. Nor, for that matter, was it evident that the northward search by individuals for copper, nickel and gold—a search that might not have been imaginatively managed by Ottawa—contained the risks of uncontrolled capitalism. The way was open to make obvious and practical choices.

Most important, perhaps, the nineteenth century provided alternative governments. The lethargic, incompetent and corrupt administration could be thrown out, peacefully or otherwise, in the confident knowledge that the alternative, if it were not better, could be thrown out too. In this more difficult century, there is often a terrible finality about change. The only available revolution is one that promises, whether acceptable or not, to be exceedingly permanent. This is grave enough. But it also means that not infrequently, though happily not in the country to which I am accredited, we have governments whose principal claim to consideration is that they keep the Communists out. They are not very good for development.

So clearly the nineteenth century was the better time for economic advance. Yet the new nations have some advantages. Technical paths are pioneered and it is perhaps a trifle easier to indicate than to originate. The new countries can learn from our errors to

the extent, at least, that they do not prefer to repeat them. And I venture to suggest that some of the countries now undertaking development are bringing to the task a determination, a clarity of design and a sense of purpose that exceeds that of any country of the nineteenth century. I doubt that even Japan in the last century attacked its backwardness with more determination than India is manifesting today.

Finally, in this century we have one new and unexpected phenomenon which is the compassionate determination of the early starters to help the latecomers. Representing the United States in a distant country is, I discover, a varied and interesting task and marked on occasion by developments that made life a little less alluring. But one has a great and unfailing source of joy. That is in speaking for a nation which made assistance by the more fortunate to the less fortunate lands a normal feature of modern foreign policy.

It is a pride which is fully shared in New Delhi by my friends in Canada House. For Canada, subject only to the restraints of relative size, has shared in this humane adventure from the outset. Perhaps it is the innovation in international relations for which we will, in the end, win the most credit. Be that as it may, the practical reaction is certain. On some future occasion we may criticize ourselves for having done too little; we shall never criticize ourselves for having done too much. In politics we have few such sure things.



Education

ONE NIGHT LAST SPRING, a hometown audience which packed O'Keefe Centre to its elegant rafters heard Toronto's Teresa Stratas sing the role of Liu the Slave Girl in the Metropolitan Opera Company production of Puccini's "Turandot". It was a great evening for tiny Miss Stratas who shared the stage—and matched high notes—with the world-famous soprano, Birgit Nilsson. The audience (and later the critics) acclaimed her. As I joined in the applause, I found myself wondering how Teresa Stratas felt now about the beginnings of her career. A day or two later I found out.

"Those four recitals I gave in the Conservatory Concert Hall while studying in the course," she told me, "were more trying and difficult than anything I have done as a singer before or since."

The 'course' to which Teresa referred is the three year Artist Diploma programme in the University of Toronto Faculty of Music. She was admitted at 17 and received the diploma with honours in 1959, also winning

Left: Teresa Stratas, ready for her role in "Turandot". Professor Schabas, author of this article, is on the Faculty of Music staff.

of a Leading Soprano

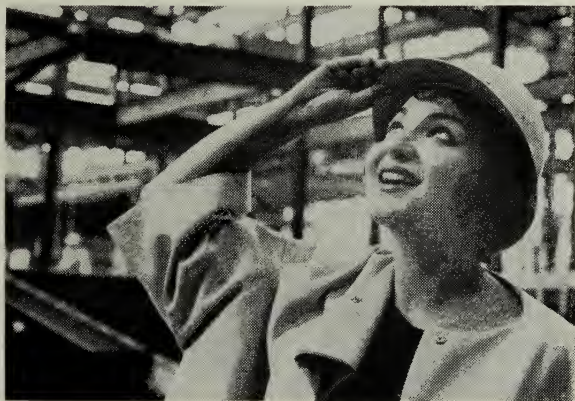
the \$1,000 T. Eaton Award given annually to the outstanding graduate. Other Canadian artists like Lois Marshall, Betty Jean Hagen and Ray Dudley had preceded her in the course and won similar honours.

Teresa's serious musical training actually began at 16 while still a student at Toronto's Malvern Collegiate. An audition had been arranged with Dr. Arnold Walter, Director of the Faculty of Music ("a wonderful man . . . I'm very lucky that he took such an interest in me"). She arrived for it at 9 a.m.; there was no accompanist; her audition piece was a particularly hackneyed Italian aria, "Il Bascio". Singers rarely do their best in the early morning and the seemingly stern Walter frowned first, then shrugged his shoulders to indicate that she begin.

Four or five minutes later, Teresa pinched herself to see if she was awake, for Dr. Walter was arranging for her to study with Madame Irene Jessner, for 15

years an outstanding soprano at the Metropolitan and one of the Faculty's senior teachers. "But", he added, "you must also continue with high school. If you matriculate you can then enter the Faculty as a full-time student."

Lessons began and soon a warm personal relationship grew between the two sopranos. Although a generation apart they were quick to recognize their artistic affinity. Teaching sessions were, and still are, a bit like athletic contests with Jessner giving instructions in penetrating fortissimo tones, Teresa debating these at the



Miss Stratas among the girders of new home for the Faculty of Music at University of Toronto.

*At right
we see
the girl
who was
hidden
behind
Liu's
heavy
make-up
(page 46)*



same dynamic level. The gifted student—as indicated, Teresa still has periods of study with Madame Jessner when schedule permits—demands the utmost from the teacher and the challenge has been accepted in full.

The Artist Diploma voice candidate takes a comprehensive course. It includes thorough vocal training, instruction in five languages, classes in musical theory and history, and extensive work in the Conservatory Opera School.

It was in the Opera School that Teresa particularly excelled. Here she came under the tutelage of Nicholas Goldschmidt and Ernesto Barbini, and, perhaps even more important, the stage direction of Herman Geiger-Torel. Of Mr. Torel, too, Teresa speaks in superlatives. Now General and Artistic Director of the Canadian Opera Company, in addition to teaching at the school, Torel came to To-

ronto in 1947 from Germany, via Buenos Aires and Rio de Janeiro. With Dr. Walter, founder and first director of the Opera School, and Dr. Ettore Mazzoleni, its director since 1952, Torel has made a tremendous contribution to the development of opera at the University and throughout Canada.

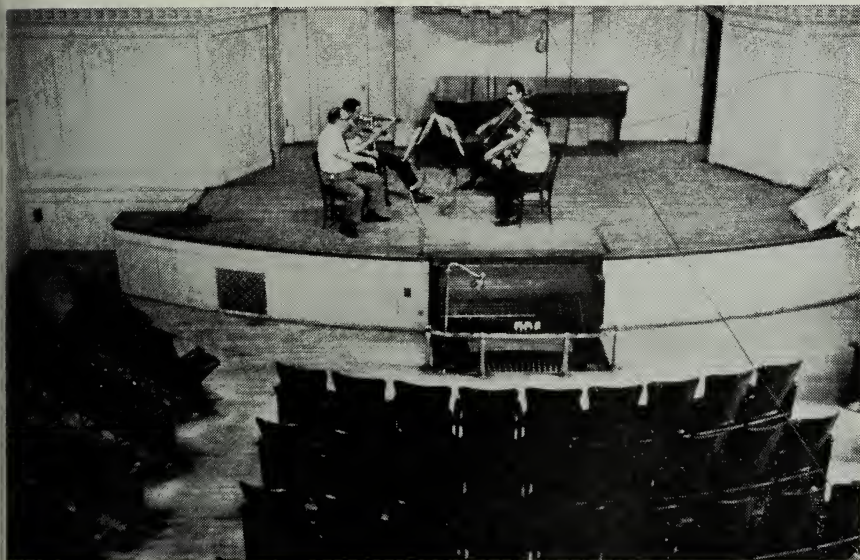
"I never worked with a finer stage director," Teresa told me. "How I wish I could still do operas with him!"

In the Spring of 1958, Torel cast Teresa as Nora in Vaughan Williams' "Riders to the Sea". Those memorable performances at Hart House Theatre were followed by a still greater success the following October. Walter Susskind of the Toronto Symphony Orchestra was to conduct Puccini's "La Boheme" at the Toronto Opera Festival. Efforts to find a Canadian soprano for the prima role of Mimi were of no avail. Our confident and ambitious young student approached Torel in the Conservatory cafeteria, long the informal centre for negotiations at the school, and asked to audition for the role. Even Torel was doubtful, but finally made arrangements for her to sing for Susskind.

The audition was at Massey Hall and the ringing, glorious Stratas soprano had found it proper setting. Susskind hired her on the spot.

Before graduating, Teresa competed in the Metropolitan Auditions of the Air and won the coveted first prize, a contract with the Company which soon cast her as a leading soprano. Miss Stratas' winter headquarters are now in New York,

THE CANADIAN STRING QUARTET BUILDS UP ITS REPERTOIRE FOR UNIVERSITY CONCERTS



Throughout the summer, four dedicated musicians embarked on a new career by working together four hours a day for five and sometimes six days a week in hot, humid rehearsal halls on Toronto's College street. On July 1, all had given up posts with well-known orchestras to accept University of Toronto appointments. Separately, they would teach in the University's Faculty and School of Music, which comprise the Royal Conservatory of Music of Toronto. Together, they would be the Canadian String Quartet, a long-awaited new element in the country's cultural life.

As they worked—made tapes—played them back—criticized them incisively—rehearsed again, four outstanding individual performers became a cohesive ensemble. By Autumn, they had twenty works ranging from Haydn to Bartok in their repertoire with others soon to be added.

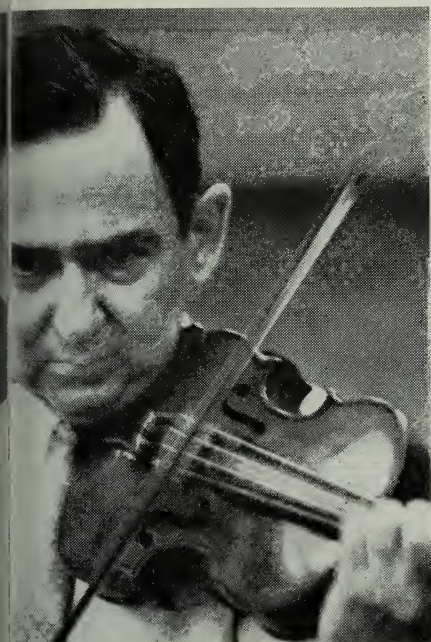
Overleaf: Candid rehearsal photographs by Robert Lansdale.



Left: First violinist Albert Pratz, formerly concertmaster in C.B.C. Symphony Orchestra, was before that in N.B.C. Symphony with Toscanini for many years. He has appeared as a soloist in Canada, Europe, and the United States.

Right: Bernard Robbins, second violin, played for Toscanini 11 years, joined N.Y. Philharmonic in 1955. He has been a member of Stradivarius and Stuyvesant String Quartets. To musicians he's known as "the ideal quartet player".





Right: George Ricci, as a child prodigy of 12, made his debut with the National Symphony Orchestra in Carnegie Hall. As principal cellist with the A.B.C. New York Orchestra, he also performed as a soloist with other leading orchestras and has given solo recitals in Carnegie Hall and Town Hall. Mr. Ricci is a sports car enthusiast.



Left: David Mankovitz, principal viola of C.B.S. New York Orchestra for many years, has also belonged to the Kroll, New York, and Stradivarius String Quartets. An acknowledged expert on high fidelity design, he has been a frequent contributor of articles on the subject and has just registered a patent for a new type of tone arm.

Education for Business

W. Eric Phillips

I AM SUFFICIENTLY old-fashioned to believe that the essential ingredient in the successful management of a modern business enterprise is the human being. No computer can ever replace the inherent leadership and creative and directing qualities of the human mind. It is in the quality of such human beings that the university can play a unique role.

The essential function of the university is the education of young men and women, and, in this context, by "education" I mean the development of the ability of learning how to learn.

It is the duty of the university to serve the community in every possible way. Business is not the exclusive property of the so-called capitalistic class. It is in truth, among other

things, the chief source of the tax revenues which keep our society alive. Its needs, particularly its future needs, have a high priority, and the university can make a unique contribution.

What is expected from the university is not always that which it can best do.

In the search for individuals with broad general knowledge and a training in some specialized area of business, the business community has looked more and more to the universities to supply graduates who will not only fit immediately into the work situation but who may well develop into future leaders.

This conflict between the demand for formally trained specialists and the need for broadly educated people

This article was the main section of an address delivered by Col. Phillips, Chairman of the University's Board of Governors, as guest speaker at the closing luncheon of the Foster marketing management seminar in Hart House



creates a dilemma for university business schools. Unfortunately, the mistaken belief that a specialist trained at a university will also be a broadly educated individual, simply because he has attended a university, has led to an increasing demand for specialist training at the university level. If it gives way to this pressure, the business school will lose its place in the academic community and its justification for being a part of the university.

On the other hand, if the business schools adhere too closely to the academic side, they will lose contact with the business community and will bar themselves from the contribution that they could make towards better business education.

The university cannot properly be concerned with the training of individuals for specific tasks of the moment or for the merely mechanical storage of organized information. The skills it is best able to develop are the skills of understanding in the broadest sense.

At this University, the School of Business, concerned with professional education in business administration at the graduate level, has its objectives firmly rooted in education. Recognizing that the student will not remain in his initial occupation but may move into the managerial ranks in many areas, the School has attempted to give the student a broad understanding of the administrative process in the environment of business.

Its proper purpose is to educate and not to train. The student who emerges from the School of Business should

be able to face problems in an orderly and analytical way. He should have an understanding of the nature of problems and the ability to recognize them.

It is not suggested that business education will turn out trained leaders. The arts of leadership require qualities which cannot be taught. It is merely hoped that the process of business education will give the individual the corner-stones upon which his own energy, imagination and devotion to duty will enable him to build quickly a socially useful career.

As part of the process of business education at the University, the Department of University Extension is playing an increasingly important role in education for the business community. Where the regular university courses help to prepare individuals for adult life, the extension courses provide an opportunity for continuous study by individuals already in business careers. In the late afternoons and evenings, over four thousand persons enjoy the opportunity for organized study in business and allied subjects.

Although these courses may be helpful for the careers of the individuals, they are not designed to train people in specific skills but to open the doors of knowledge to them and to instill a desire to explore further.

If the Extension Department were turned into a mere training ground, it would lose its essential university function of extending the work of the university to the community, to individuals who are past their years of

formal education but wish to continue to learn.

Although these educational facilities provided by the University are impressive, they would be worthless without the continued development of knowledge through research. In the field of business education, it is here that the business community can make its greatest contribution to the university and can expect rich dividends.

However, the university is not concerned with the solution of day-to-day problems. It cannot be "practical" in that sense, but it can be "practical" in its research to develop knowledge and understanding which will make it possible to solve many future problems and not just one immediate problem.

Without the underlying work in mathematics, statistics and economics, the field of operations research would not have developed to the stage where it could be applied to many problems. Similarly, without the painstaking research in human relations, our knowledge of this field would be limited to rule of thumb, and our management would be the poorer.

The university alone is not the answer to all our problems—far from it. The universities have not yet solved their own basic problem of who shall be admitted. There are many pre-eminent executives today who have attended no university. Their progress might well have been easier and more rapid, but, at any rate, as Dr. Samuel Johnson observes: "A self-made man relieves God of a great responsibility."

In many respects, higher education today, conducted as it is largely at

the expense of the taxpayer, is a limited gamble, with the risk of wastage in terms of human beings, but with the certainty of some brilliant gains. Without it, we certainly perish. With it, we may survive.

To show that there is nothing new under the sun, I cite some remarks made long ago by Stephen Leacock:

"Education ought only to be practical by accident."

"The existence of sham studies discredits the sterner disciplinary training which is the real basis of education. Students are impatient of everything that is difficult. They want something easy, immediate and pretentious. They confuse the result with the process. If I want to produce a capacity for thought in a student, I will teach him conic sections. I will not give him a course on 'Concentration in Six Lessons' and especially will I refuse to give him a course called 'Concentration Applied to Business'. Our schools are filled with just such courses and just such methods as that; and they are nothing else than a fraud, a sham and a lie.

"Few people realize the extraordinary value, the practical value, I will say—of studies absolutely impractical in character. What a person needs most in life—in business, in art, in politics, in anything—is the capacity for sustained effort and concentrated attention.

"In the intellectual field, there is no other asset like this. And you can get it best by devoting your studies to something making a demand on the utmost mental power that you have."

Canada and the Motorcar: The Royal Commissioner Adds a Human Postscript

Dean Vincent Bladen
is interviewed by Ian Montagnes

"Royal Commissioner Vincent Bladen runs his hearings something in the manner he might conduct an oral examination. He does all the questioning. He puts his questions in long, rambling sentences interlarded with parenthetical comment which suddenly straighten out to a sharp, penetrating point."

—John W. Grace in the *Ottawa Journal*

"The Royal Commissioner moves quickly to the heart of every submission. He acts as devil's advocate, pulling apart arguments with ever-present humour to determine how well they will stand the test of reason."

—Bruce Macdonald in the *Globe and Mail*

VINCENT BLADEN, Professor in Political Economy and Dean of the Faculty of Arts and Science at University of Toronto, enjoyed a good press in his role as the one-man Royal Commission investigating the Canadian automotive industry. When his Report was tabled, some journals gave it extensive space, others printed good summaries. The Queen's Printer published the entire document in a book which sold for \$2.

In one sense, the published accounts told everything. In another they told virtually nothing. To fill some of the gaps, Ian Montagnes, a young man with an inquiring mind and a tape recorder, called on the Dean one afternoon this Autumn. His visit was rewarding, as the extracts from the transcript, which start on the next page, demonstrate.





Aided by an associate, *right*, the General Manager explains layout of the Humber plant at Coventry to Dean Bladen. At *left* are the Hon. Brian Rootes and Miss Elizabeth Leitch, the Commission secretary.

Mr. Montagnes: Let us start with a big question. Can you pinpoint a moment which might be called a hinge for your recommendations?

Dean Bladen: There were two I would say. One was an incredibly simple thing—a chart which showed the changes in our net import-export position. Early on, when someone would talk about the increase in imports, I would reply that the import-export net figures were the important ones. It wouldn't matter if we imported a million cars, providing we exported two million. The chart made my point abundantly clear—such a simple little thing!

[As the reader will appreciate at a glance, the key chart, reproduced on the facing page, stripped a complex problem to essentials. There was a time when Canada sold two automobiles for every one purchased outside the country. In 1950, for the first time, we imported more than we sold. Our exports made a brief recovery two years later—and then came the deluge. Last Spring, after years of slowly decreasing exports and swiftly rising imports, Canada was buying seven automobiles for every one built here and sold abroad.]

I must digress before giving you the second point and tell you what the Governor of the Bank of England once said to Keynes. "How do you decide the bank rate?" Keynes had asked. And the Governor replied, "Feel and flair, Mr. Keynes, feel and flair."

Well—and now I come to the second point—walking around the plants

in Europe and talking to the people who run them, I got the *feel* of tremendous plans for expansion. Every one of them was planning to produce more, although leaders in the industry were saying privately, if not publicly, that capacity was being expanded beyond the probable market. The competition was going to get rougher still!

According to the record, you visited 49 plants at home and abroad. What did you learn besides what you've said about expansion?

When I started the job, I didn't know any more about the industry than the average man on the street. Now that the job is finished, I think I can say that I haven't thoroughly failed to grasp the character of the industry. At least, none of the comments indicates that there were serious bloomers in the Report.

As far as the mass producers are concerned, the technology is almost identical. I was really seeing the same thing each time. What did I learn? In a sense I didn't learn anything that I couldn't have learned in other ways. But if you read a table of statistics it isn't the same as if you go and get the feel. Walking around a plant, people express themselves more freely and understandably than they do when dealing with precisely the same facts in an office.

There is another aspect of some importance. The mere existence of a Royal Commission stirs people into thinking about and discussing the problem under review. This therapeutic function can be more important

than the Commission's recommendations.

In France, Germany and Sweden there was another by-product: some staff members of the Canadian Embassies made contact with industry in a more intimate way than is normal for diplomatic people.

How was European hospitality?

Oh, it was very generous, particularly at lunch. They do themselves well at lunch. One lunch went something like this: drinks at the bar, then lobster, then pigeon, cheeses, a souffle, and then fresh fruit—something like that—and red and white wine, and then coffee and liqueurs.

Did you count your drinks that day?

Yes, and I can give you the total. One-half glass of red wine. With the

cheese. Very pleasant. It was the one occasion on which I broke my resolve to eat little and drink nothing at mid-day.

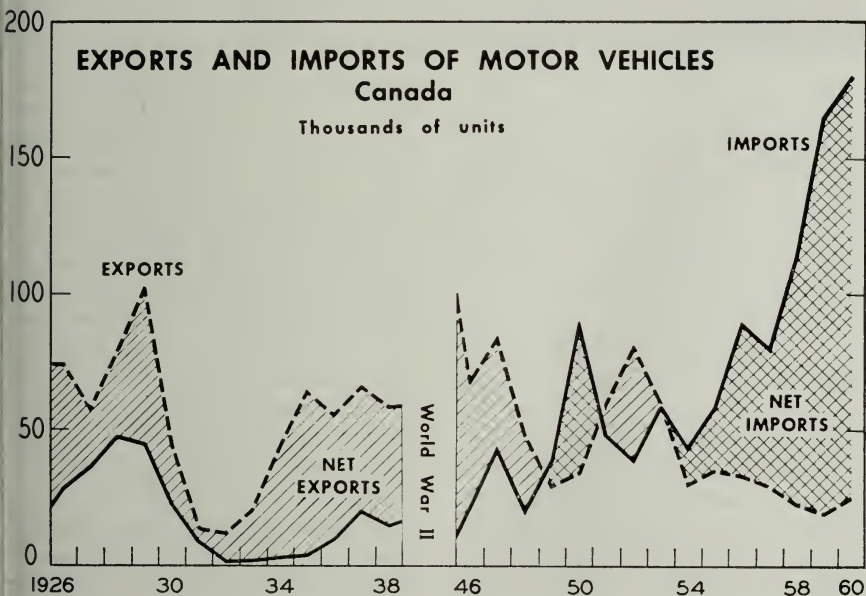
You hold that automobiles and alcohol don't mix?

Not at lunch. Let me add that I don't think my status as a Royal Commissioner had much to do with the menus. They roll out the carpet for senior executive visitors—especially in France.

Did you try out many cars?

I wasn't officially sampling cars but I was driven in a great many different models both in Canada and abroad. In England, for example, we travelled from plant to plant in the Rolls Royce loaned to us by the company. At each plant we transferred to a car made there.

(overleaf)





Dean Bladen with Saul Rae, 3T6, on the steps of Hart House before the first session of Alumni College in June. Mr. Rae is Minister in the Canadian Embassy at Washington.

Which was the best ride?

No comment. But I will tell you which was the most exciting—a short trip in the gas-turbine experimental model—a car with no gears—which they are developing at the Rover plant. This was fantastic. It pushed my back in when we started.

This was particularly exciting because I had been speculating on the possibility of eliminating gears. The automatic gear shift has hurt us, because the automatic cannot be made in Canada on a scale which is economically feasible. As a non-engineering, non-driving authority I began thinking about flexible power in a simple-minded way. Couldn't we de-

velop a travelling power-plant which used no gears? I remembered the steamer of my youth and I had heard about the gas turbine. I talked to Frank Wetmore (Associate Dean of Arts and Science) about this. He told me about the fuel cell—a way in which you produce electric power by chemical instead of mechanical reaction you could apply it directly to the wheels. Some work has been done on this in the States, although it is a long way from practical use. Something like this may develop eventually.

How did your job start?

It began with a telephone call one Saturday night from Donald Fleming, an old student of mine—the Honour-

able Donald Fleming, Minister of Finance. He said the Government wanted me to act as a Royal Commissioner to study the automobile industry—and could I be in Ottawa the following Monday to see the Prime Minister? This was tremendously exciting for me, as it would have been for most professional economists.

I obtained the University's permission to tackle the job and, on Monday, kept the appointment with Mr. Diefenbaker. The Prime Minister discussed the commission briefly with me but, I am happy to say, gave not the slightest hint of the kind of report he hoped to see. As everyone knew, unemployment in the automobile industry was a serious national problem. I told the Prime Minister that I assumed he would want the Report as quickly as possible. I realized that recommendations for tax or tariff changes (if any) should be in his hands in time for the next federal budget, and I made my own timetable with that in mind. But I was left entirely free.

I saw the Prime Minister in August. The Budget might be brought down in March or April. There was no time to lose. It seemed to me that my first move should be to introduce myself to the heads of Canadian companies mostly concerned—the manufacturers, parts manufacturers, importers—and to the labour leaders. So I invited them all to a meeting in the Senate Chamber of the University.

Most of the top people came. I gave them dates for public hearings in Ottawa, dates for submission of briefs,

and said I hoped they would appear in person.

There is no handbook for Commissioners. The Royal Commission is a flexible instrument, each having different objectives and different problems. I said I would conduct the inquiry and ask the questions.

"What do you want to know?" somebody asked.

"You are the people who ought to know what you think I should know," I answered. "This is not a witch hunt. It is an effort to diagnose weaknesses and to see whether therapy is possible. It should be in your interest to provide me with all the relevant information you can. After I hear you out, I may very well have some questions. I will try to avoid asking for unnecessary information that would be costly to provide."

Another question was: "Suppose statements are made which we feel are prejudicial to us: may we cross-exam and rebut?"

I said I would probably not allow cross-examination by anyone but myself. If things were said which they felt should be discussed further they could send a note up to me. I was determined to avoid a courtroom atmosphere with witnesses being examined and cross-examined and so on.

That meeting seemed to go quite well.

These people you invited to the Senate Chamber proved co-operative later on?

They sent in more than sixty public briefs and forty confidential briefs. I made a point of asking them to ear-

The Dean is seen with his daughter Sarah, who last Spring became the only woman ever to graduate from Ontario Agricultural College with the degree of Bachelor of Science in Agriculture. Addressing the graduates, Dean Bladen said each had cost the taxpayers \$1,000 for each year of his course.



mark information which they didn't want competitors to see. We advertised in the press, as you saw, and more than eighty expressions of opinion from the public reached us.

Some letters were just beefs, some contained good suggestions. An engineer in the aircraft business made a particularly helpful and intelligent submission. Of course, there were letters like this: "I bought a car; the thing won't work properly; I can get no satisfaction from the dealer; will you tell the manufacturers about it?"

What about staff?

I had a marvellous staff—a magnificent staff—and they all worked dreadfully hard.

The first thing was to get a Secretary for the Commission and with the help of Bob Bryce (Clerk of The Privy Council) I was lucky in obtaining the services of Miss Elizabeth Leitch. One of our graduates in Political Science and Economics, she was in the Class of '36—the President's year. She took time out, just after the war, to do an M.A. with Harold Innis. Miss Leitch is in Trade and Commerce, a high-ranking economist. There aren't many women at Ottawa with her professional standing.

Then, right at the beginning, I attached Professors Stykolt, Hartle and Eastman of our department of politi-

(Continued on page 83)

THE BALLAD OF BILL BLATZ

J. D. Ketchum

Sung by Professor Ketchum at a dinner for Dr. W. E. Blatz on his retirement (after 35 years) as Director of the Institute of Child Study at University of Toronto. Dr. Blatz is remaining on the staff as Professor of Psychology.

There's a famous professor whose name you may guess,
His initials extend for a mile, more or less,
And his colleagues fall silent with awe when they see:
"W.E.B., M.A., M.B., Ph.D."

So fill up your glasses and drink with a will
To the brilliant, aggressive, and versatile Bill . . .

When Bill was a baby no records were kept
Of what he had eaten or how long he slept;
If he screamed on the toilet no mortal can tell—
And that may be the reason he turned out so well.

For the poor child grew up in a primitive way
Without Nursery School training or supervised play;
The result was an ego so stubborn and strong
That he gets his own way even when he is wrong.

[The next eleven verses, omitted from these pages at the request of the bard—he takes the law of libel at face value—cover the Blatz student years . . . the start of his teaching career at Varsity ("he bumped into Bott and talked himself into a job on the spot") . . . his search for a college "where no student would dare question his rule and found it, of course, in a nursery school" . . . the development of the Institute . . . "surprisingly, most of the graduates fail to end up where they ought to—in Queen Street or jail."]

Now Bill's done his job and is saying farewell
To the school that he guided so long and so well;
If you still want to hear him hold forth, all you birds,
Just tune in "Now I Ask You," or else "Fighting Words."

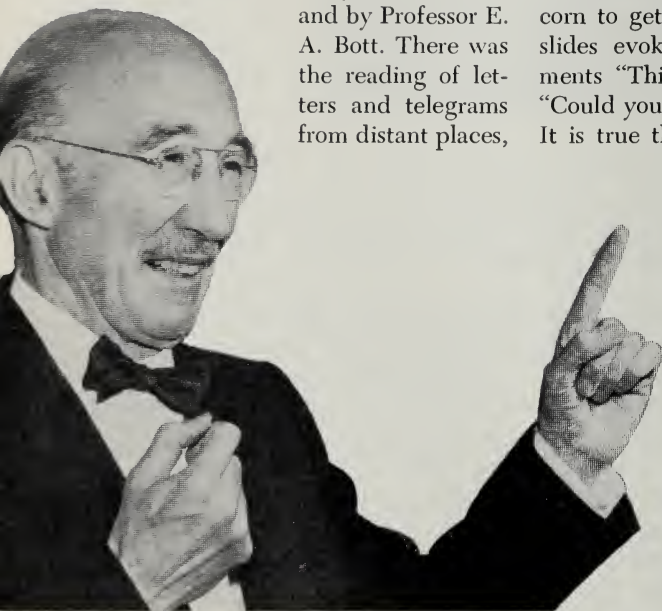
Lecture with Slides

THE DINNER for Dr. William Blatz and his wife was an exclusive affair, in the sense that the hundreds who wished to attend but who could not be accommodated in the dining room of the Faculty Club were not admitted. There was a gracious *laudatio* of the honoured guests by the President of the University, by the Chairman, Dr. Karl Bernhardt, by Floyd Chalmers, and by Professor E. A. Bott. There was the reading of letters and telegrams from distant places,

a song, composed in honour of the occasion and sung, by Professor Ketchum, the presentation of a silver coffee service. And then Dr. Blatz did something which all of his cautious friends would have denied as even a remote possibility. He gave a lecture illustrated with slides.

The signal for a change of slides was given by a conventional clicker ("Anne had to buy a package of popcorn to get the clicker") and the odd slides evoked the conventional comments "This one is upside down" or "Could you please sharpen the focus?"

It is true that the slides were, as the speaker himself put it, "below the level of perception". No member of the audience had to crane his neck, or bypass a neighbour's coiffure in order to see them. In fact nothing was visible except Dr. Blatz. Nevertheless the dozen or so pictures were vivid and constituted a brilliant *historia arcana* of the Institute of Child Study. From Dr. Blatz teaching (as an undergraduate) a



"Could you please sharpen the focus?"

night-class in Physics at the Central Technical School and being visited by an Inspector whose new shoes he had recently screwed to the floor of his room in Devonshire House, we moved to Dr. Blatz the graduate student at Chicago battling impecuniousness with good friends, a surfeit of apricots, a migrant can of navy beans, and artillery horses set in their ways. There was a picture of Dr. Clarence Hincks at the Battery, New York, encouraging a Dr. Blatz whom he had recently presented to the Rockefeller Foundation as a prime exhibit to return to the University of Toronto.

Two figures appeared on the Back Campus—Professor Bott inducing a Dr. Blatz, who had been eased out of the Navy before he had been eased into it, to adopt an army career on what proved to be expensive terms. A snapshot of one of Dr. Blatz's friends and one of his enemies showed Miss Margaret Fletcher as the friend ("she resigned every year") and the then Bursar of the University as the enemy peering out a west window of Simcoe Hall at the St. George School which disturbed his quiet. There was a scene where Dr. Blatz attempted to solve a problem by having the title on certain architectural drawings changed from "Windy Ridge Day School" to "Residence for Dr. Blatz", the inspector inquired why Dr. Blatz needed ten toilets in his residence, and the architect whispered:

"Everybody knows Dr. Blatz: he's cracked."

We were shown Dr. Blatz the manager of the Varsity football team which won the Grey Cup in 1921, losing by theft an overcoat in the pocket of which were dozens of tickets for the Grey Cup game, and through this misadventure eventually being brought into association with the Dionne quintuplets one of whose major problems he solved by buying five high-chairs and sawing off the legs. There was a slide of Dr. Blatz and his colleagues bringing aid to the United Kingdom during World War II, establishing a training-school for teachers of pre-school children in Birmingham, and defeating the restrictions of rationing by high good humour which did not desert them even when an enticing and long-hoarded bottle was found to be filled with mineral oil. The move to the present building on Walmer Road was described largely in terms of a tribute to the members of the Institute's staff.

During the course of his remarks earlier in the evening, Professor Bott described Dr. Blatz as one who in his student days had been "foremost in study, sports, and mischief". Dr. Blatz has added many "foremosts" to his record since those early days. He has probably ceased to be an athlete. But his friends will always be grateful that he has never ceased to be foremost in mischief—a term which is here used not in its legal sense, but as a synonym for wit, humour, provativeness, stimulus and antagonism to the stuffed shirt.

I'm glad I didn't miss it

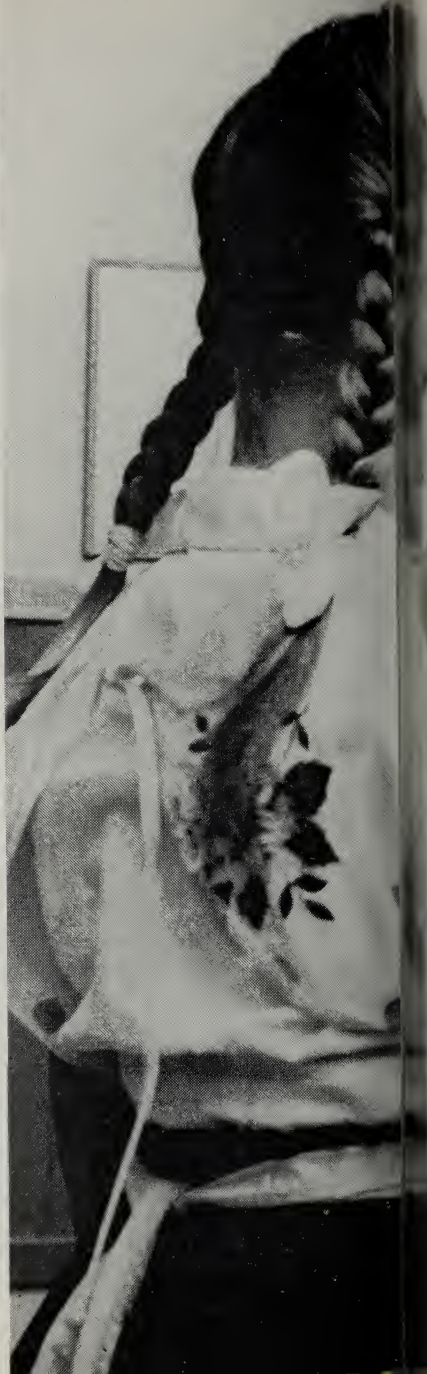
William E. Blatz

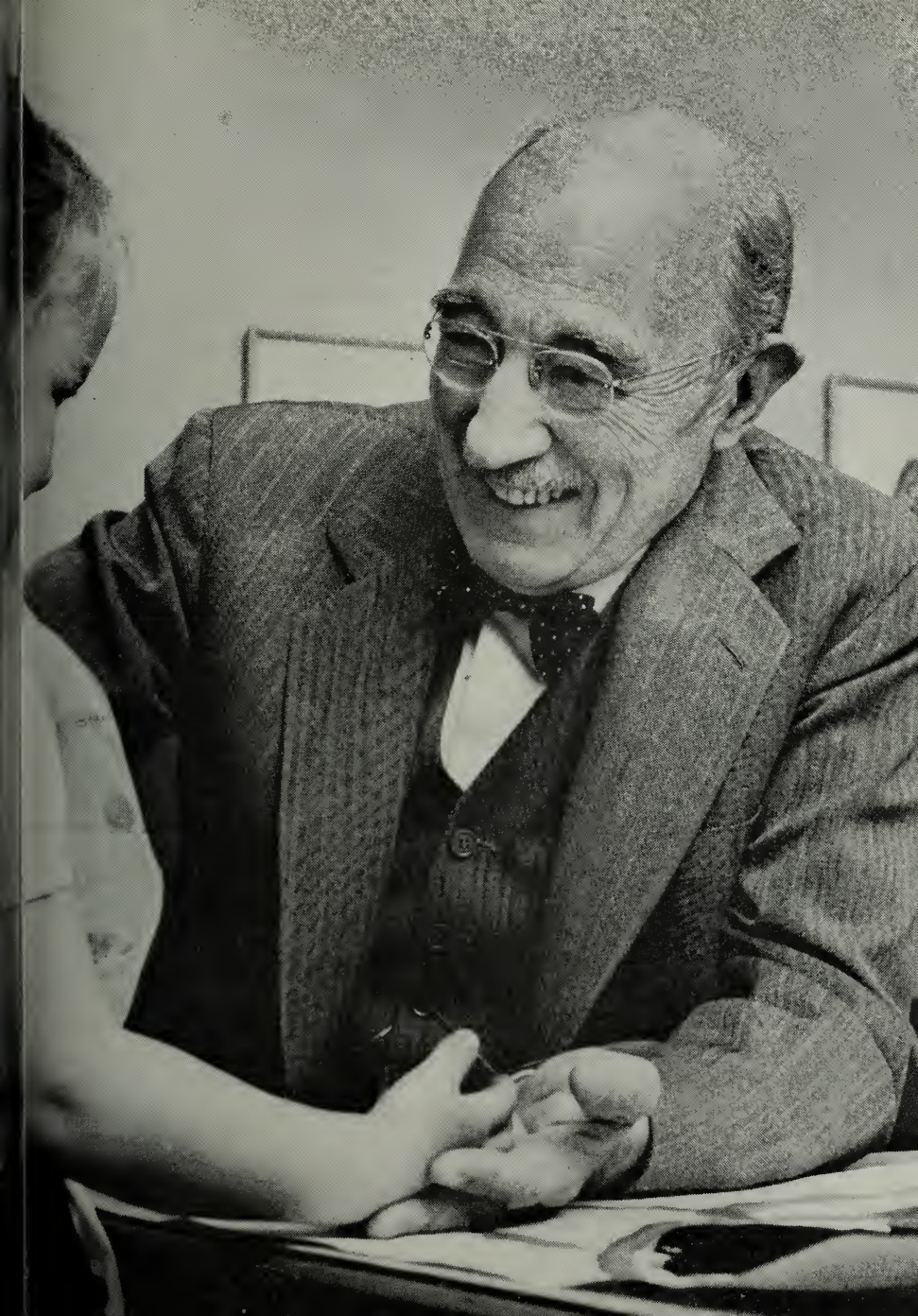
MY FRIENDS, and others, have asked me, "Haven't you changed your mind about your ideas of child training? You don't seem to be as controversial as you were!"

There are several answers to this. One, some of the ideas are now accepted and appear commonplace—e.g. the inefficiency of violence as a disciplinary aid. At the beginning, the fundamental basis of the so-called system was how to develop self-discipline; it still is. This goal is obviously not original.

But some of the methods of attaining this goal at times seem out of the way. Details sometimes change, gimmicks seldom survive. The main influence on child development today is still the parent. I hope this never changes.

During the first World War, I was privileged to work with Professor E.





A Bott whose efforts to apply fundamental psychological principles to the care of mentally ill returned soldiers had received recognition not only from the Canadian Army Medical Corps but also from Great Britain and the U.S.A. Then I learned that the factual data pertaining to the functioning of *normal* human beings were even less than those about the so-called abnormal.

At that time I had already chosen my vocation, namely research and teaching in physiology, the study of the normal, the essential background to the practice of medicine. To change from the study of live organs to that of the mind was not too difficult and so my new career began.

It soon became apparent that the approach to this new field of scientific research was through a study of the "normal" child, the indefinable, the commonplace. It is so easy to be interested in the deviate—the delinquent, gifted, retarded, the handicapped, the underprivileged! These make the headlines and of course, need serious study. But because the "normal" is still unknown, the Institute of Child Study against many pressures has retained its interest in the ordinary everyday child and adult. There are so many of us. It takes twenty years to observe a child grow up. The cross-sectional method, the study of the same number of children of different ages at the same time, yielded ambiguous results. The longitudinal method was initiated. Many problems emerged only one of which is to keep the subjects under obser-

vation. Humans move around so much these days. At any rate this method is now inculcated into the Institute projects and the results seem promising.

As research without application or teaching is often sterile, it was inevitable that attention was paid to the role of the parent in ordinary child development and the role of the teacher in directing learning. The nursery school provided a laboratory for both projects and later the elementary school provided subjects for the study of the most important development stage of all; when the child begins to "leave" his home figuratively.

The obvious problems of growing up were all too obvious. It became apparent that the method of handling these problems determined to a large extent the adult personality later to evolve. The study of the normal child will show some day the origin and genesis of some of the disabling conditions that we feel are preventable.

The emphasis in the Parent Education Division of the Institute is on the positive values that should be stressed rather than on the negative factors that may be avoided. No other educational institution has as high a teacher-pupil ratio as a family: often one to one. The solution of many of our problems of maladjustment (whatever that is) is an educational and not a medical issue.

Which leads me to say that I wish today I was as sure of what I know as I was thirty-five years ago. I am glad that I do not have to do it all over again but I would not have missed it for anything.

Installation of an IBM 7090 in the University's Computation Centre will provide a powerful new electronic ally for researchers across the country

NEW COMPUTER BREAKS THE FANTASY BARRIER

ANYONE WHO CAN CONVINCE Professor William H. Watson that his reason for adding 229,000 numbers in one second is good enough will be able to do so at the University of Toronto next summer. The University's IBM 7090 will be built and installed by then. More powerful than any computer yet seen in Canada, it is being financed in large measure by National Research Council grants and will be available to every University department, and to leading research establishments across the country.

Who would want to add 229,000 numbers in a second? Who would have a problem so complex that there would be upwards of 30,000 instructions and figures to feed into the machine's million tiny doughnut-shaped magnets?

"Well," said Professor Watson, Director of the University's Computation

Centre, "let us consider the design of a nuclear reactor. Inside a reactor, neutrons are travelling at all sorts of speeds, encountering materials with different kinds of atomic nuclei. Each nucleus has its own special behaviour with neutrons at each speed. It's a very elaborate process to follow through. It can't be done on the back of an envelope."

Or, he suggested, consider the problem of a medical researcher studying the effects of radiation treatment for cancer. A radium source emits millions of particles of radiation, each pursuing its own course in the patient's body. Only a computer could follow enough of these paths, by a random or "Monte Carlo" technique, to approximate the total pattern.

The International Business Machine 7090 Data Processing System—to give the electronic jinn its full title —



In Edinburgh 40 years ago, Dr. William Watson, *left*, studied maths in a leading computation lab with multiplication tables up to a thousand, 13-place tables of logarithms and squares, and paper and pencil. Only 17 years ago, he headed up a special committee which recommended that the National Research Council pay out \$1,200 for "a modern computing machine"—actually a desk calculator but far ahead of anything they had. So tremendous has been the scientific explosion that, next year, Dr. Watson will command an electronic computer, the IBM 7090, which in one hour will do what would have been a 200-year job for the N.R.C. desk calculator.

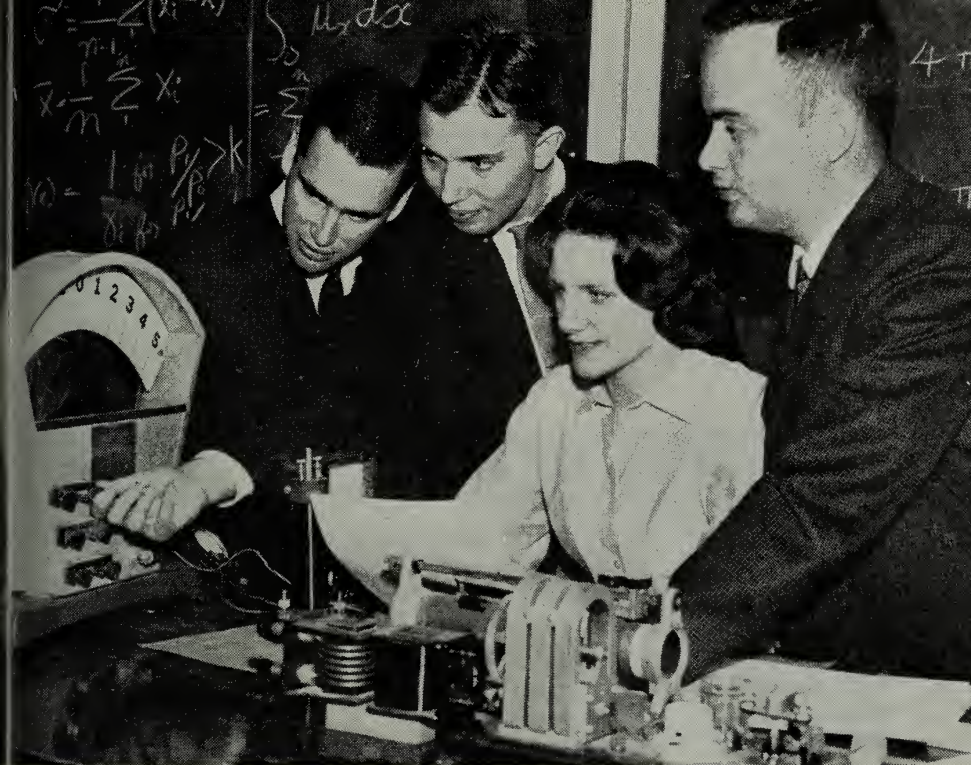
can store an unlimited amount of data for future reference on punched cards, magnetic tape, or film. A greater working memory means it can deal with more complex problems. Because it uses transistors, instead of the vacuum tubes of its predecessors, it is more reliable and costs less to operate.

Some years ago, Dr. Watson described the advent of electronic computers as a social revolution, comparable to the change in transcontinental travel from the prairie schooner to the airplane. When it was suggested that by this analogy the IBM 7090 must be a jetliner, he laughed. The difference between Toronto's old and new

computers is so great that it defies that kind of comparison.

Instead, he turned to the blackboard and drew an exponential curve, a rapidly-rising line which swooped upwards at equal intervals on the graph from 1 to 10, to 100, to 1,000. This is the rate at which fires, explosions, nuclear chain reactions and populations grow when there is no check on them. It is also the development curve for computers.

Today, however, Dr. Watson and other scientists are chafing because computer development is slowing down. The bottleneck they face is the speed of light.



THERE ARE NO COMPUTERS to make life easier for undergraduates as these new Bachelors of Science, all graduates of Forest Hill Collegiate and Toronto's challenging Maths and Physics course discovered. Michael Copeland, *left*, active in student government, football and bridge, is now at M.I.T. on a Woodrow Wilson fellowship. Peter Heichelheim, son of a University College classics professor, good at bridge and chess, is at University of Michigan on a fellowship, won another from the National Research Council. Ann Totton, daughter of the mathematics head at Forest Hill, was a summer scholarship student at O.C.E., has started her career as a high school teacher. Leonard Klebanoff, whose extra-curricular interest was music, has returned for graduate work in physics.

Electricity, travelling at the speed of light, takes about a millionth of a second (one microsecond) to flash through 100 feet of wire. Inside a computer which has miles of wiring, this is an appreciable time; the 7090 already takes little more than two microseconds to search its memory for

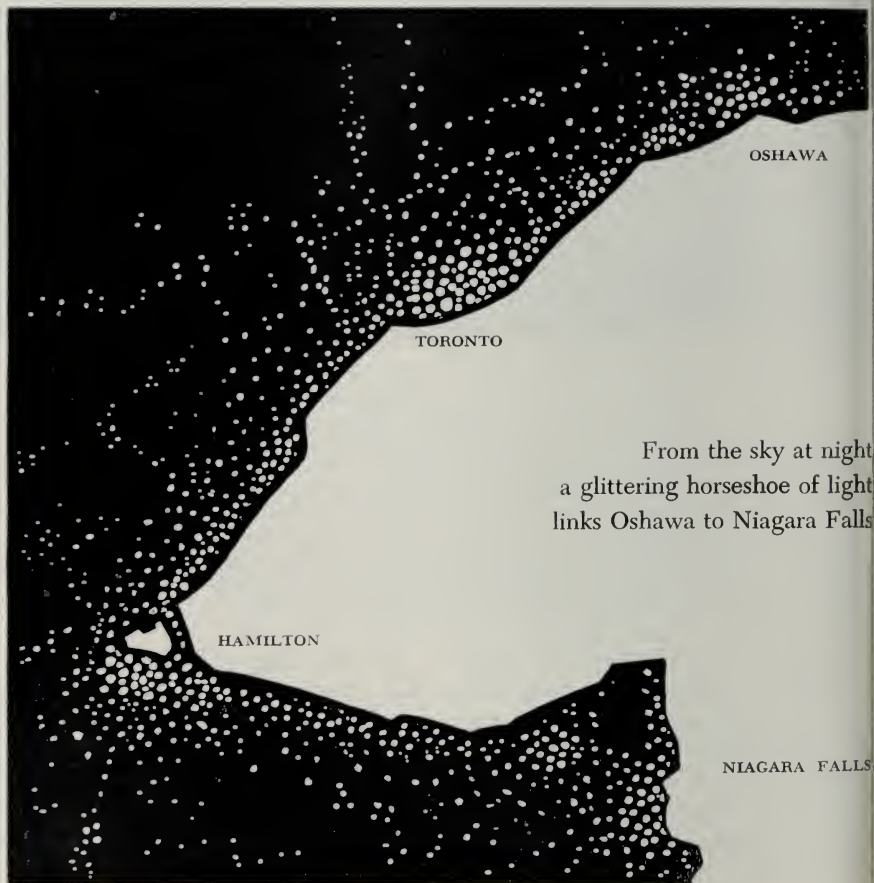
a number. Any significant increase in the speed of operations may have to await an invention based on new principles.

The 7090 will be Varsity's third large computer. The first, an early model called Ferut, was honourably

(Continued on page 92)

HELP WANTED:

Graduates to plan t



Ontario's Golden Horseshoe is in the market for idealists who are realists and philosophers, too

Shape of things to come

Frederick G. Gardiner

THE AIRLINE PILOTS were the first to see what was happening: on course night after night, they watched the fingers of light reaching out to join urban communities together. This explosion of metropolitan complexes — or “strip” development—has resulted from North America's fantastic migration from country to city; more than two-thirds of all the people on the continent now live in urban areas. On the Atlantic seaboard

it is impossible to define where Boston's orbit ends and New York's begins, where the pull of Philadelphia is stronger than that of Wilmington, or where the economic and sociological boundary lies between Baltimore and Washington.

We have our own example of this from Oshawa to Niagara Falls—our

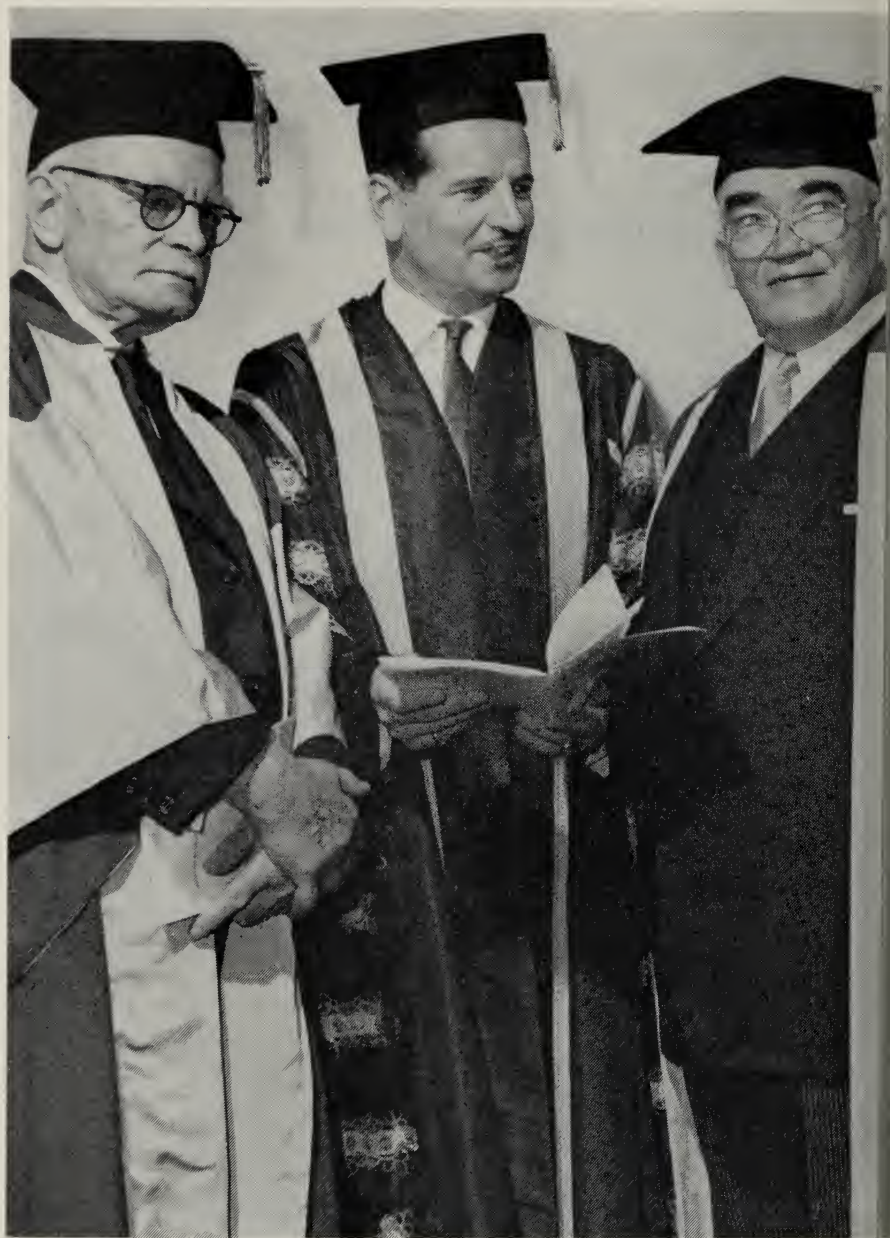
Golden Horseshoe of industrial development—of which Metropolitan Toronto is the hub and the centre. Old patterns are changing rapidly. But, before a start can be made towards the kind of broad-gauge regional planning which is essential, basic handicaps must be overcome. In the first place, there are not enough trained planners to go around. There are a few dozen in the United States and fewer in Canada instead of the hun-

dreds who are needed. The need for competent planners of broad understanding and varied skills constitutes a challenge to our universities. The professional planner must know something of economics, sociology and engineering. He must be enough of an idealist to know what his region should have, enough of a realist to



DR. GARDINER

This article consists of excerpts from the address to Convocation by Dr. Gardiner, Chairman of Metropolitan Toronto Council, after becoming an honorary Doctor of Laws of the University of Toronto.



know what its taxpayers will stand for, and enough of a philosopher to refuse to become frustrated when his nobly-conceived plans are filed away to await a more opportune time.

Even if we had an army of planners, we would not accomplish much as long as the central city and its ever-expanding suburbs continue to look upon one another's problems with indifference. The suburbanite riding to his job in the city over a new expressway is not much concerned with his city-dwelling cousin's attempt to get downtown on a bus that is snarled in a traffic jam. The city resident can bear with fortitude the news that his suburban counterpart is having trouble with his septic tank, that his school is operating on a double shift, and that the bulldozers and steam shovels are tearing up his pastoral view to accommodate a highway, a shopping centre or an industrial plant.

The town that gets the factory sits back with calm confidence in the knowledge that industry pays about three times as much in taxes as it receives in municipal services. The town that gets the workers' homes is the beneficiary of a financial headache, for the average residential property does not pay its way.

In these days of miraculous scientific progress and astonishing industrial, commercial and residential development, we must educate ourselves to control and direct those forces so that they will be of benefit rather than the means of our destruction.

My simple definition of education is that it is the process by which a pupil who must be taught is transformed into a student who teaches himself.

The principal goals of education are the ability to approach any situation in a logical way and the development of an inquiring mind. There should be an insatiable desire to know.

An educated person will not be bewildered by change or thrown into panic by misfortune. He will be able to determine where he is, where he should be headed, and what he should do to get there.

Education might be compared to our natural resources which Nature yields only to the energetic who, with courage, initiative, and hard work, pry them loose. One does not learn to accomplish difficult tasks by watching somebody else perform on television.

As Professor Galbraith has indicated in "The Affluent Society", the American and Western societies have solved the problem of production but find

Facing page: The President is flanked by two new Doctors of Laws whom he presented to Dr. F. C. A. Jeanneret for their degrees this year. Andrew George Latta McNaughton, he said, was a soldier-scientist whose mind had been used, whose health had been taxed, and whose heart had been given in the service of his country. In Dr. Gardiner's citation, Dr. Bissell called Metropolitan Toronto a new municipal animal with 13 heads, formed to cope with new problems of urbanization and suburbanization. "To one man more than all others, the success of this eight-year-old experiment is due," he said; "that man, Mr. Chancellor, is Frederick Gardiner."

themselves faced with the paradox of surpluses at a time when millions of people are starving for the need of them. A high percentage of our working force is unemployed while our newspapers are full of advertisements crying for skilled workers.

We are faced with the irritating fact that six percent of our population has less than five years' schooling and that 11 percent are considered functionally illiterate. (The minimum requirement for an errand boy at General Motors is, for all practical purposes, junior matriculation.)

The situation is so emergent that vocational and technical retraining is now available with the federal government bearing 75 percent of the cost. But the tragedy is that most of the workers requiring such retraining have not a grade eight education which is a condition of eligibility.

Our young men and women, particularly the graduates of our universities, have a choice. They can be among the vigorous Canadians who will make a contribution to the development of this country and win their reward for doing so. Or they can just float along with the tide and hope for the best which—at its best—will never be very good.

Where do we find the qualified people?

All will not come from institutions of higher learning. But all must have the desire to learn, the ability to discipline themselves, develop their talents, and acquire the knowledge and understanding which we call an education.

The Science

John Dakin

SOME VERY UNPLEASANT THINGS are happening to our cities. Bigger, noisier, smellier; less easy for movement, less pleasant for work and more difficult of escape, they are becoming progressively less sympathetic places for living the good life.


Yet it can be shown that the city has never been so healthy to live in, its citizens have never been so well fed, housed, educated, amused, clothed; they have never been so rich, so efficiently transported as they are now in the modern Western city. For the large mass of the people, urban life is better than it was a hundred years ago.

Samuel Johnson said that the man who was tired of eighteenth-century London was tired of life. Perhaps this diagnosis should be applied to ourselves. Yet it does seem we have legitimate complaints about commuting distances, high housing costs, lack of open space, traffic hazards and so on.

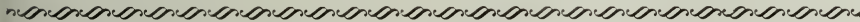
Dissatisfaction with the city in the face of the evidence of many improve-

Planning the Shape of Things to Come (II):
We must draw on many disciplines for wisdom
to define our goals and how to achieve them

and the Humanities Meet



EACH YEAR about 16 post-graduate students leave the University of Toronto with a diploma earned in the Division of Town and Regional Planning—more than the annual output of all other Canadian planning schools combined. This year, enrolment stands at 23. The Division is a part of the University's School of Architecture, education for planning having been started in this University in 1951. Most of the diploma-holders are busy in local, metropolitan, provincial and federal planning work in Canada. Professor A. J. Dakin, whose professional interests also include architecture and the social sciences, was educated in Britain and has worked in France, Switzerland and South Africa. He was appointed Head of the Division last January.



ments should perhaps be understood as an admission that we could have done better, and as a realization that our failures are due not so much to technological difficulties we cannot surmount as to problems in human relations, social goals and group action. Our problems are no longer simply of the technological order: *how* to construct roads, factories and houses. Nor

do our troubles lie solely in the field of accommodating one activity to another, or in coordinating action in the social process—vital as these obviously are. The challenge that we face is the directing of our activities in an ordered way within the frame of reference of social goals. The pressure of this challenge will increase as we add perhaps fifty or sixty million inha-

bitants to the urban areas of North America in the next quarter century.

There is a terrible temptation to blame everything on Detroit. The automobile is, of course, by no means innocent, but we cannot cure our ills by treating a symptom; solving traffic problems will not alone guarantee urban health.

The 'cause' of our dis-ease is surely to be identified in the tremendous technological advances and social changes that have occurred since 1914. Rapid travel, high building, instantaneous communication, vastly increased wealth, very large scale industrial production, increased agricultural efficiency and other factors—these are the reasons why our urban centres have changed so fast and it is only by having regard to *all* aspects of our present condition that we can find long-term solutions.

Just as horrifying in its results as the impact of the motor car is our habit of adding piecemeal to existing cities. Although we have the technical ability to start new towns from scratch, thereby making a new beginning each time and benefitting from up-to-date knowledge, nearly all our urban growth takes place as accretion to existing centres.

Our patterns of land ownership are another major problem. Notwithstanding the use of land-assembly techniques, we are rebuilding large areas of cities and converting from low to high population densities frequently without modification to the layout of the plots. This leads to inefficiencies in the daylighting of apartments and

offices, noise interference, poor arrangement of parking and circulation space, and diseconomies in building because renewal takes place plot by plot.

Our ideas about land are too small and too rigid. We think in blocks of money that are too small and in periods of time that are too short. To be effective, planning now needs large scale operations.

What is true for the city applies to the region and the whole national land surface. In these areas of the national life, however, we do not yet find a comparable awareness either of the problems or of the need for planning. Yet there is enough evidence to indicate that regional and national planning will become indispensable to our technologically-based culture. How, for example, can our federal government intelligently allocate funds for urban renewal without planning at central government level?

The essential characteristic of planning is that it draws from a large number of the traditional disciplines, out of them defining a new body of knowledge. The physical sciences, such as geology and climatology, the behavioural sciences—especially economics and sociology, and the 'action' disciplines, such as civil and traffic engineering and architecture, all make vital contributions to planning.

In all about fifteen disciplines are concerned.

As an interdisciplinary operation planning runs horizontally across the vertical lines of the traditional bodies of knowledge and the planner in his

thinking nearly always works with material from several disciplines simultaneously. From this it follows that planning is not a simple extension of economics or architecture or anything else, but is something different from our conventional idea of specialization.

The notion that city growth can be controlled and directed is one of the most important social inventions of the last half century. Few who are informed about the management of modern towns doubt that planning will make an increasingly significant contribution to the common wealth.

The importance of the social sciences to planning can scarcely be over-emphasized since there is a logical necessity to understand the culture and the society before attempting to guide future development. Indeed it is becoming clear that effective action by architect, engineer or economist must be based on a knowledge of how people behave and of the structure and trends of society if it is to be meaningful in the context of rapid technical and social change.

A second reason for the importance of the social sciences is that planning must proceed chiefly by *social*, and not by *technical* invention. We shall, of course, invent new methods for the mechanical control of traffic, new building techniques and new power sources, but to manage these we shall need new invention within the social framework. As some of the controlling social inventions will be in the realm of planning, the planner is extremely interested in the bodies of theory being developed by the social sciences. They

will play an increasingly important part in his education.

Perhaps the most significant contribution that the social sciences will make to planning will be in the area of goal formulation and social action. These now lag far behind our technological achievement depriving us of the very fruits that technology promises.

The planner usually receives his planning education at post-graduate level, although some universities have undergraduate courses. The emphasis on the post-graduate system has the historical explanation that planning in its early years grew out of architecture, engineering and surveying. This fact has little significance any longer as planners feel themselves to have a clear identity and do not regard their role as an extension of any other profession. In view of the urgency of finding solutions to the pressing problems of our cities the emergence of the planner in a well-defined role is timely, but we shall reap the full benefit of our opportunity only if we give him the fullest educational opportunity.

This University's course in Town and Regional Planning is at present for one academic year. For admission an applicant must have an approved degree or be a member of an approved professional body, meaning that he is deemed thereby to have the equivalent of a bachelor's degree. The Division draws students from a wide range of disciplines—geography, economics, sociology, architecture, engineering, land surveying, even fine art and philosophy. The quality of

student is high, some already having a master's degree in their basic disciplines. The Division attracts students from a variety of countries and it is hoped that, in addition to providing Canada with planners, it will play an increasingly significant part in educating planners to meet the urgent demands of the have-not countries.

Planning has come of age. It merits a status commensurate with its importance as the only agency dealing at large with the development of town and country for the public good. The demands made now on planners are heavy, but the demands which will be made five and ten years from now will be very much heavier. To educate planners capable of meeting the rising needs of Canada in the next decade we should be taking thought now for improving the standard and scope of planning education. In due time I hope that we shall be able to offer a post-graduate course of at least two years duration giving admission to a master's degree and shall be capable of offering opportunity for advanced research beyond this stage to those likely to make important contributions to the theory and practice of planning.

The University of Toronto is in a singularly advantageous position for playing an expanding part in Canadian planning education because of its full complement of faculties and departments, and because of its proximity to provincial, metropolitan and local government organizations, contact with which is essential to the educational process.

Planning the Shape of Things to Come (III): Prize-winning formula of a Varsity professor

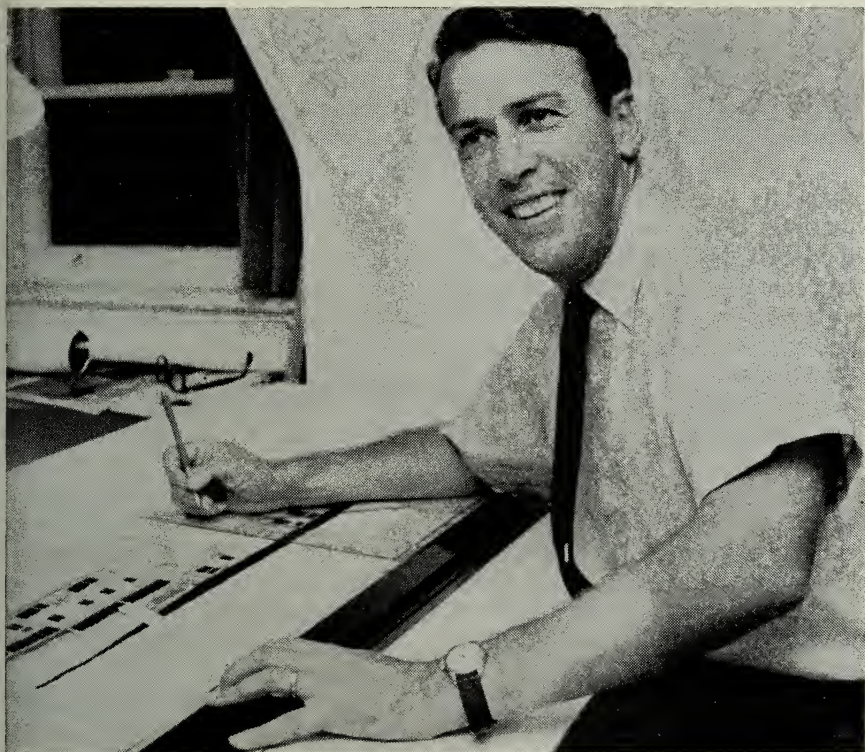
Safe streets and a private patch of sky

FRASER WATTS is a young architect who believes North America has some of the finest buildings in the world, with some of the ugliest space between them. The space is his major interest.

As assistant professor in the School of Architecture, he has been spending his days teaching how our cities could be better planned and landscaped. In his spare time during the past year, he has been applying these principles with remarkable success.

Along Smyth Road in suburban Ottawa stand 71 empty acres. With the idea of sponsoring a model housing development for middle-income families, Central Mortgage and Housing Corporation bought the land and last September announced a unique national design competition with a first prize of \$15,000. Fraser Watts was one of the first to enter.

His problem: to fit onto the site 700 housing units in an assortment of private homes, apartments, maisonettes



and special facilities for elderly persons; to provide for future shops, a church, school and other public buildings; to do it all in the most pleasing and functional manner possible—and at a cost that would attract private developments. The Crown Corporation would not be building on the land itself.

The site was a difficult one: flat, scrub-wooded, with only four feet of earth above solid rock. The rules were stringent: only two per cent leeway allowed on housing requirements set by the Corporation. Until the Feb. 28 deadline, Watts spent every spare

hour on the contest. After dinner on week days, he would make his way to a sparsely-furnished third-floor studio in his home, and stay there till one a.m. with only an occasional break for a walk around the block. Saturdays and Sundays were spent in the studio, too. Once in a long while he would go to a movie with his wife. "It was a terribly hard grind," he admits.

The contest drew 39 entries, mostly from groups of architects pooling many years' experience. Watts worked entirely on his own: an advantage, he felt, because it was so much easier to reach decisions. Even his full-time job

at the University proved a help. "It was a good balance to go down to the campus and talk to students about their design problems for a change."

In April, Watts was one of five competitors asked to prepare a second set of plans. In July, he was declared the winner.

It is significant to the plan that Professor Watts has two young children and lives in a narrow midtown street where the roadway is the natural playground. His main idea, as he explained afterwards, was to separate youngsters from cars. "I wanted to free people from the anxiety of the automobile, so mothers could go shopping with their baby carriages without crossing roads, so children could play outside without their parents jumping every time brakes squealed."

"Of course, the parents have to pay for this freedom," he added. "They have to walk a little way from their car to their house, but never more than 150 feet. It should be good for them."

Even so, the judges found the winning plan gave more than usual recognition to the importance of cars. What it does is concentrate traffic and protect pedestrians as much as possible. Thus, there are relatively few through streets but many lightly-used loop roads and cul-de-sacs. Instead of individual garages there is precinct parking. For some residents, the garage is underground beneath the square on which their houses face.

"I wanted also to give people a private place under the sky, so they could live and entertain in their gar-

dens without neighbours watching," Professor Watts continued. His backyards are bounded by brick walls to above eye level, with rows of poplars and other trees along the back. To shield the garden from upper windows of adjoining houses, he originally planned to build wing walls out from the house to second-storey height; now he thinks it may be possible simply to put blinders on the upper windows to restrict their field of vision.

The Watts plan solves several other problems which plague those who live in unplanned communities. There is a distinct separation between children's outdoor play areas and their parents' formal gardens. Entrance steps to the houses are indoors to prevent accidents on icy days. Shopping is close at hand, but screened from the homes by a row of trees. None of the ten-storey apartment blocks overlooks the private houses nearby; instead, they face southeast and southwest to catch the sun, presenting blank end walls to the rest of the development. Elderly persons live in cottages scattered about the community.

Watts will be building scale models to interest one or more developers in the scheme. And after that—still part of the first prize—he will be commissioned to prepare working drawings.

To fit in all the work, Professor Watts has had to give up another award. He was to have spent this year at Harvard University, on a Canada Council Fellowship. However, Harvard has assured him there will always be a place open—when he does have time.

Royal Commissioner's Postscript

(Continued from page 62)

cal economy as advisors. Professor Hennessey joined us later to analyse the financial statements of the companies.

I soon realized I would also need another full-time economist. Mr. Plumptre (Wynne Plumptre, Assistant Deputy Minister of Finance, formerly on our staff in political economy) suggested Douglas Arthur of his department.

I began to want Arthur more and more. It was always a battle to keep him, because he was badly needed in Ottawa. His immediate superior, Arthur Annis, another old student of mine, was very unhappy at losing him, but I always put pressure on Plumptre and Ken Taylor (deputy minister of finance) I took it they wanted a good report reasonably fast, and I told them that if I didn't have him, they would not get it. So Arthur sat through the hearings in Ottawa with me, went around Ontario with me—he was with me in Detroit, and toured with me in Europe. After Christmas I again pressed to keep him, and he stayed with me through the drafting of the report right up to the end.

Arthur's influence was very great. I don't think I would have reported differently if he hadn't been on the staff, but I wouldn't have reported as soon, as effectively or as confidently. He knew how to develop some of my ideas in a way which would be easily interpreted within the framework of

the existing customs and excise practice.

Well then Miss Leitch found an administrative assistant. This was to be someone who knew how to order things, how to arrange travelling, make up expense accounts and all that sort of thing. Larry Kavanagh turned out to be an extraordinarily useful man who looked after us in all sorts of ways. He helped with filing, he helped with arrangements for the hearings, he helped get material through the press, and so on. He worked very hard indeed. It was a very close-knit team, and I suppose that really he and Miss Leitch were the two who kept it that way.

Rather later, we realized that we needed more help with statistical work. We got Mrs. Ian Macdonald as a part-time worker, and she did a good deal. She indexed the briefs, for instance.

Another old student of yours?

An old student, and the wife of a colleague.

And then we realized we needed more help, and we asked the Bank of Canada. The Bank of Canada lent us Alain Jubinville. His expected function was largely statistical and he was in fact responsible for collecting most of our statistical material. But, as we got into the writing, he began to make a much bigger contribution. He showed himself to be a thoroughly sensible economist. If the Report is reasonably clear, it is partly because

he insisted on understanding everything we said. And if it is reasonably literate, it is because he — though French-speaking — has a very great literary sense. Many was the time that sitting around the table—I was at one end, with the manuscript which I had written, Arthur would be on my left and Miss Leitch on my right and Jubinville in front of me, and we'd be struggling over a sentence that I'd written that they said wasn't clear—I would say to Jubinville, "Say it in French!" And he would say, "Well, in French I would say it like this" and I would say, "That's fine, I've got it." And I would then write the sentence, which was really a translation of his French, and very often this would be accepted. So that he made a very substantial contribution to the writing of the Report.

Finally, at the last stage, we had a man named John Brunet. He again was a statistician, a retired civil servant, who came for two or three months and helped with the putting-together of figures—a very nice person, and again very much part of the team.

Jubinville's wife, it turned out, was used to drafting charts, and all the work on the charts—and apart from those that were published there were a lot of others done for us to look at while developing our thinking—were drawn by her, and she did them extremely well indeed.

Add two hard working secretaries, Miss Cheeseman and Mrs. Haines and there you have the staff.

How did you divide your time between the Commission and the University?

I had two offices: my University office and an office which the Department of Public Works got for me in the new Mackenzie building on Adelaide street.

Some days I would be down there and leave this office alone, the next day up here. Sometimes, when things piled up, I would have to work up here longer. I just met the pressures as they developed.

I was never incommunicado. In the middle of a meeting in my Royal Commission office, there would come a telephone call from the President. I don't find it too difficult to switch from one subject to discuss another and then back to the original one. When I was up here, there would be an occasional Commission call. But I did the Commission work mostly in the downtown office and University work here, and the writing of the first draft of the Report mostly at home. According to our records my working days for the Commission totalled 137.

Some newspapers commented on the informal way you conducted the public hearings at Ottawa. One reporter compared them to economic seminars. Was that a fair appraisal?

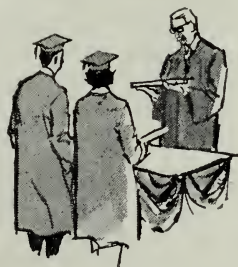
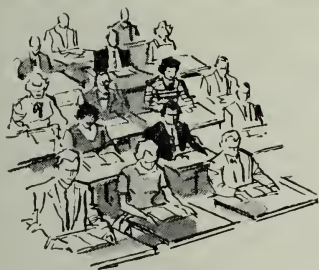
In part it was teasing. Someone wrote that he was reminded of a Ph.D. examination. Professor Stykolt observed that this would increase the value of the Ph.D. at Toronto — that people would say that if a Ph.D. candidate has to stand up to this kind of

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examination he must be good. We employed no counsel and we were not investigating wickedness. We were talking over the problems of a somewhat distressed industry. I think it's true that the atmosphere tended to be relatively friendly.

I suppose that at times I might have been said to have been a little brutal in my questioning. But it never got unpleasant — everybody took it well. It was intellectual probing, on the assumption that we were all concerned to find a sensible solution. This is what made the whole business go.

Someone would be talking high protectionism, and I'd just tell him he could kill his industry with protection, that he could have 100 per cent of the production of no cars. Another man would be a free trader and ask, "What does it matter about unemployment?" and I would try to tell him. In the process I think the various parties came to understand a little better the worries of the others.

Sometimes it was hard going but my colleagues were helping me—and they helped to keep my good humour. They not only passed over questions of intellectual importance they sometimes passed over comments of considerable humour. When one man started talking about "intregation", Professor Stykolt wrote: "I take it 'intregation' means integration achieved through intrigue."

Did you enjoy the experience?

I'm glad I had it. But, oh! I was glad when the week of hearings was over. It was a hard week, so different from working quietly in private or working with a small group of people.

At Ottawa we were in a room with 50 or 60 people watching, keenly interested, a court stenographer taking everything down, and the press looking for something exciting. I was a bit frightened of the press, but they did us proud.

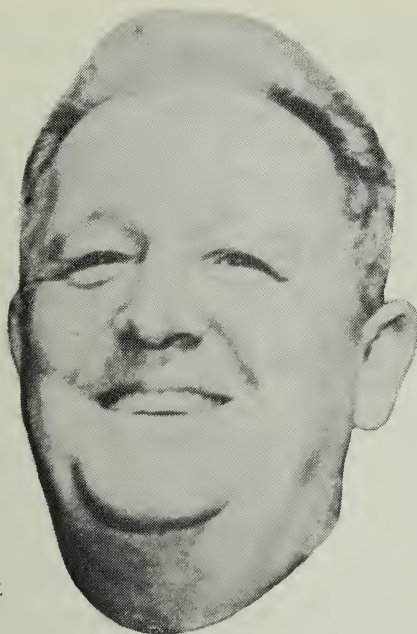
Miss Leitch went to Ottawa a few days before the hearings opened, and somebody said, "Who's your Press Officer?" "We have no Press Officer; Professor Bladen doesn't want a big staff." "Are you having a cocktail party for the press?" "No, we aren't having a cocktail party for the press; Professor Bladen says he hasn't any time for social activities."

Miss Leitch was a little worried that this would mean the press weren't going to take much notice of us. But when we started, there was the press table with about 12 people around it and, by Jove, they were there regularly. They did an extraordinarily good job.

How was the Report written?

We went on studying and talking. I'd say, "Well, what about this as a proposal?" and we'd bat it backwards and forwards and find something wrong with it and I'd take it back. Finally, I said, "Look, we've got to have this Report finished. The Budget could come down in March". And so at last—I can't tell you quite when—at a certain stage I said, "Now I'm going to start writing my report." And I wrote—in pencil as I always do—a first draft. This was typed and we started going over it.

Over a period of about three weeks this was rewritten and a new draft was produced. I'll give you one ex-



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ample: In my first draft, I had gone through all the recommendations, commenting on each one in turn. My colleagues said, "This is Bladen reading his students' essays and marking them A plus and B minus; it's pretty tough on people to find their presentation taken to pieces like this." I realized how right they were. What they wanted me to do was what I ultimately did. I separated the summary of the presentations and my discussion of them.

We went over the second draft phrase by phrase. The problem was to make it sound to an automotive manufacturer as though it had been written by someone who understood the industry; it had to be put in a way a civil servant concerned with tariff and fiscal policy could accept; and it had to be put in a way that the politicians and the public could understand. I was most concerned with the last.

We got this draft done and I thought it was the final one with perhaps a little more polishing. But many revisions were still needed although they did not change the actual meaning. At last we got the final draft. This was submitted to the Prime Minister's Office in confidence, and arrangements for its printing were immediately made, and for its translation. Then things began to happen. We found odd little things here and there that were wrong, and Miss Leitch would have to go and tear out a page from the Prime Minister's and put another page in its place.

We received splendid co-operation from The Queen's Printer at every stage. The day before the Budget, Ken Taylor asked for some copies for the diplomatic bag going to Washington that night with the Budget papers. The office of the Queen's Printer had closed for the day but luckily Miss Leitch got through to the Queen's Printer, Roger Duhamel, and he said, "Well, I can't get this, but I'll see what I can do." He called the head of the publication division, and he came back down from his home, but when he got there he couldn't find the right keys. The Report was held under the stringent security of the Budget papers. When he did find the key and got in, he ran into the Mounted Police and had difficulty identifying himself. He had quite a time! But he delivered the copies to the Department of Finance in time.

A number of problems were raised because it isn't usual for a Royal Commission report to be tabled as a Budget document. One of the problems was security. But there was no leak. Douglas Arthur, listening to a radio broadcast the night before, began to get cold feet: the commentator was guessing what was in the Report, and Arthur said it sounded as if he had just read it. Then the commentator began to talk about some things that indicated he didn't know, and Arthur was comforted.

Now that it is all over, how do you feel?

I've done the job as well as I can do it. I'm content, not that it's the

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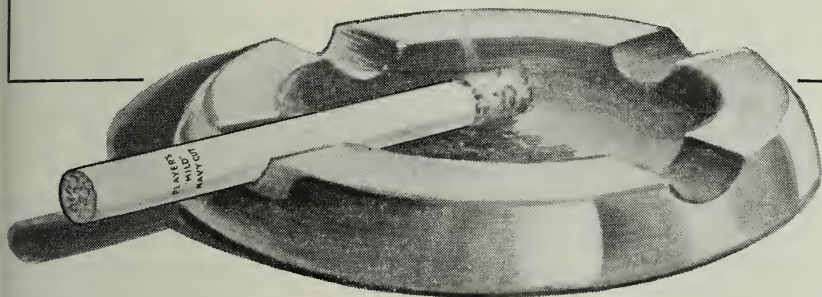
best job that could have been done, but that it was the best job I could do. The Report has not been enthusiastically received, but neither has it been subjected to devastating criticism—"This is nonsense" sort of thing. *The Economist* review was reasonably complimentary, but it was very clearly worried about the English impact.

I must admit that I can see the possibility of some of my colleagues tearing into my views on the automobile industry as unduly protective, just as the University of Saskatchewan team under the late George Britnell tore into my brief to the Gordon Commission on the Combines Act. The Saskatchewan team did not worry me: I respected them; I think they respected me; we disagreed. It was a legitimate sort of disagreement, not the difference between a man who was stupid and didn't understand the elements of economics and one who did. This was a difference in interpretation and, in this area, I think I'd be a bit worried if everybody was in agreement.

On the other hand, I'm still subject to finding that Harry Johnson (University of Chicago economist) or Bill Hood or John Dales (Toronto economists) or whoever it may be, will expose the hollowness of my argument and my proposals. If they disagreed with me, it wouldn't hurt. If they showed me up as having done a shal-low job, it *would* hurt.

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Fantasy Barrier

(Continued from page 71)

retired three years ago. Before long its successor, an IBM 650, also was proving unequal to research demands. To take just one example: Professor Herbert Gush of physics is probing into the structure of molecules and the forces that bind them together. Even on the 650, which is no snail, his calculations take 100 hours each. He has many such calculations.

Now it may be feasible to resurrect a project which proved too ambitious for Ferut: the writing of a concordance of old English poetry which would list every poetic word and formula written before the Norman Conquest, and tell where each is to be found.

In the department of psychology, another of about twenty University divisions currently using the Computation Centre, Dr. Endel Tulving is making a study of memory. He shows his test subjects a group of 20 words, sees how many they can recall, then shows the words again in a new order, repeating the process 20 times. Subjects who mentally organize the words in alphabetic or other patterns remember more than those who don't. To sum up each subject's performance, Dr. Tulving has devised a mathematical index. It takes him half an hour to compute each index himself, and there are hundreds to do. It will take a fraction of a second on the 7090.

Conversely, as computers grow faster and larger, they are becoming easier for non-specialists like Dr. Tul-



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ving to use. Once, every step in an operation had to be fed in detail into what is, despite its prowess, still only a machine. Thus, to add three and two together in one type of machine requires the following instructions, coded for brevity:

1. Store the number 003 in address X01.0. (an address is a specific location in the memory bank);

2. Store the number 002 in address Y01.0;

3. Transfer the number in address X01.0 to the accumulator;

4. Transfer the number in address Y01.0 to the accumulator;

5. Store the resulting number (the sum) in address Z01.0;

6. Report the number stored in address Z01.0.

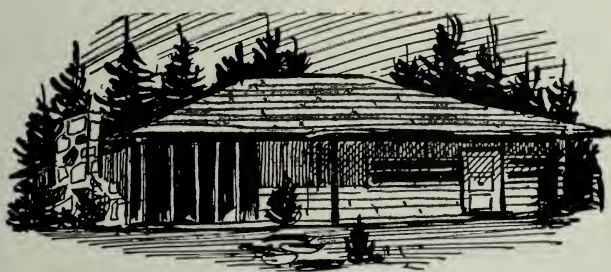
Such detailed instructions quickly multiply. To compute a student's year-end average from his term and examination marks (a job a computer performed several thousand times last Spring) involved 150 steps. But in fact, the machine was told what to do in half a dozen English sentences: the computer itself translated these instructions into its own language.

Several such instruction languages, midway between machine logic and the vernacular, are used. Some take mathematicians no more than a day to learn, others may take a month. Their preparation is a difficult job—but computers are helping to solve that problem, too.

Dr. Watson has left Toronto for a winter of study and research. He will have an interesting time when he gets back.



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**THE WONDERFUL WORLD
OF HIGHER EDUCATION**

UNIVERSITY OF MARYLAND, faced with more students than it could house, turned its biggest men's residence over to co-eds, built aluminum-walled, pre-fabricated temporary quarters for the men.

RECOGNIZING MUTUAL INTERESTS of aeronautical, civil and mechanical engineering, Johns Hopkins School of Engineering has combined the three departments into one Department of Mechanics. Dropped in the process: courses in surveying, engineering drawing and machine design.

ICONOCLASTIC UNDERGRADUATES at Downing College, Cambridge University, have campaigned to end sconcing, the traditional punishment for infringing student rules. Sconced students must down four pints of beer in four minutes without taking the tankard from their lips. Complained the rebel leader: "It's archaic."

FOR "INTELLECTUALLY displaced women", Radcliffe College has established a new Institute for Independent Study, offers \$3,000 fellowships to cover baby-sitting and other expenses so that young mothers with Ph.D. or equivalent degrees can continue studies on a part-time basis.

A CASE INSTITUTE researcher, working in the Hereford Cathedral library, has uncovered one of the earliest known appeals by a university to its alumni. Dated 1614, the letter from Oxford asks a prominent graduate to plead the University's case in Hereford, notes the need for new buildings and higher faculty salaries, promises donors' names will be recorded "to be laid up for all eternity in our Public Library."

TWO-YEAR SCHOOLS of basic medical science are operating in five U.S. centres which cannot afford the full four-year courses. Graduates of the basic schools complete their work at other colleges, filling class vacancies caused by drop-outs and failures.

AT UNIVERSITY OF ILLINOIS, a local bus line which was cutting back on regular routes began an experimental cross-campus service, hoped to break even by charging students five cents fare.



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REPORT OF THE PRESIDENT

To the Governors and the Senate of the University of Toronto

Ever since the end of the Second World War, one of the themes recurrently emphasized in this Report has been the growth of graduate studies. What might be described as a new era in the School of Graduate Studies began with the statute passed in 1947 (which inaugurated the present structure of the School, with its grouping of graduate departments into two Divisions) and the appointment of the late Harold Innis as Dean of the School. A revision of this statute to make the administrative machinery more workable was passed under the chairmanship of Dean Andrew Gordon, who since his appointment in 1953 has given the School vigorous and authoritative leadership. In the projection of our maximum enrolment, the School of Graduate Studies becomes the third largest division of the University, next in size only to the Faculty of Arts and Science and the Faculty of Applied Science and Engineering, with an enrolment making up about 15 per cent of the total enrolment of the University. On a simple quantitative basis, then, the School assumes a considerable importance. Even more, as the locus of our most advanced work, and as the one academic unit that embraces every discipline in the University, the School of Graduate Studies provides a commanding position from which to view some of the changes that are taking place in the world of higher education. I propose in this Report to examine some of the reasons for the growth in graduate studies, and then to look at the relationship between graduate studies and the

*Remarkable
growth in graduate
studies reflects the new
and high estate given
to knowledge*

other principal areas of the commonwealth of learning.

It would be well first to establish the general nature of graduate studies. I would define such studies as specialized work of an intensive and advanced nature pursued beyond a first degree. The core disciplines in any graduate school are those of the Faculty of Arts and Science. These are the basic disciplines in all areas of knowledge, upon which the professional schools must rely. The professional schools have their own interest in graduate studies, although advanced work in most professional areas is a continuation of the typical emphasis upon specific problems, now explored in depth, or buttressed by an introduction to related subjects. Inevitably certain differences in attitude and method develop between the professional and the non-professional areas, which may be increasingly difficult to reconcile in one administrative structure. At the present time they are brought together in the School of Graduate Studies under the aegis of research.

Research, or the systematic attempt to add to human knowledge, is always closely related to graduate studies, although it is not the exclusive concern of universities with graduate schools. The concept of research is particularly relevant to work in the sciences. A doctoral dissertation in the sciences is in fact an addition to knowledge—usually only a minute link in a vast chain. The concept of research is less immediately relevant in the humanities and social sciences,

where the dissertation may be a reinterpretation or a synthesis which is more important to the intellectual development of the student than to the advancement of the subject. Most dissertations in the humanities and the social sciences do not enter the literature of the subject; they are either mercifully swallowed up, or they appear years later, transmogrified in book form.

If the product of graduate activity is research, the method is that of close tutorial relationship between senior and junior scholar. With the scientist, indeed, this may amount to a form of professional collaboration, the graduate student working on one aspect of a problem in which the senior scholar is also deeply involved. In the humanities and social sciences the relationship is rarely so close, though the dissertation will in many cases closely reflect the particular philosophical or critical attitude of the scholar who is responsible for its direction. A strong reminder of this aspect of graduate work is that it is often said of a particular student, not that he did his doctoral dissertation at such and such a university, but that he did it with such and such a professor.

With these principal characteristics of graduate studies in mind, it is easier for us to understand some of the reasons for the remarkable growth that has taken place in this area. In the first place, graduate schools have reflected, perhaps more directly and intensely than any other area, the new and high estate given to knowledge, especially to knowledge that results

from systematic, sustained and specialized investigation. The graduate schools have thus become a major social resource. This is best illustrated in the sciences, where the Ph.D. is no longer merely the passport to an academic life, but a highly negotiable asset in industry and business. To a limited extent the same is true of the advanced graduate degree in the social sciences. The Ph.D. may soon cease to be a sort of antique key to the ivory tower, and become a master key to economic status.

Another reason for the rapid growth in graduate studies has been the shift from the university as processor to the university as innovator. For, in the sciences particularly, knowledge changes so rapidly that it is no longer possible for the university to play the role of the official purveyor of accepted doctrines and procedures, since the official explanation of yesterday becomes the outmoded theory of today. Thus the university must constantly engage in revision and reassessment; otherwise it may easily find itself jarringly out of tune with the world around it. In the humanities and social sciences, the concern is not so much with change as with purpose, since the subject for examination—human nature—stubbornly resists the operation of laws that are transforming our physical environment. "Perhaps the most slowly changing thing on earth," writes Professor Sirluck of the University of Chicago, "by comparison with which the rate of carbon decay is like the racing hand of a stop-watch, is the nature

*“The development
of our graduate school
is not merely a question
of natural evolution
...it is a national
responsibility”*

of man. To discern the permanent in the flux is always the university's duty. At the present time it is a desperate need of the community, since the flux is greater than usual; it threatens to subvert the institutions on which the community normally relies for its correct guidance, and thus to undermine their authority. By discerning much more clearly and adequately, and making manifest much more relevantly and convincingly, the permanent within the flux, the university can help the community's institutions to recover their stability, integrity and authority. Whether the scholar is engaged in measuring and assessing the flux, or in trying to see it against the permanence of human nature, he will find a particularly congenial environment in the graduate school.”

The fermentation of new ideas, and the awareness by scholars of the immediate relevance of their pursuits, have internationalized the university campus. The international conference of scholars is the external badge of this new expansion. Such conferences are the special preserve of those who are known to be working at the frontiers of their subjects. Hence the universities with strong graduate schools provide the principal membership of such conferences, and give reality to the concept of the international community of scholars.

So far I have talked about movements and ideas. I come now to a precise administrative reason for the growth of graduate schools. The graduate school has been traditionally the preparatory ground for university

teachers, and today the need for more university teachers is acute. There has been a good deal of criticism, often acidulous in tone, of this role of the graduate schools, and frequent suggestions that their obsession with research makes them inappropriate for the training of teachers. Periodically it will be suggested that there should be a graduate degree other than the Ph.D., where emphasis would be on a wide general preparation and on a system of organized apprenticeship in teaching. In the meantime, however, the graduate school still performs this preparatory function. One may venture to suggest that it is much to be preferred to some super-college of education devoted to the mumbo-jumbo of pedagogical method, enraptured by portentous theorizing about the goals of education.

In their capacity as producers of university teachers, graduate schools face enormous demands. At the present time there are about 9,000 full-time members of teaching staffs in the Canadian universities. In 1965-66 we shall need 14,000, and by 1970-71, 25,000. To the difference between 9,000 and 25,000 we should add a substantial figure to take care of replacements. All told, there will be a need of approximately 23,000 new members of staff during the next ten years. We have in the past relied heavily upon graduate schools in the United States, and upon importations from Europe. These sources will become less and less available, since all countries in the Western world will experience the

same kind of crisis in staffing their universities. This means that our own graduate schools must bear the major share of the burden. Upon no university in Canada will the responsibility fall more heavily than on the University of Toronto. The development of our graduate school here is not merely a question of our natural evolution as a university, but of our national responsibility.

The peculiar responsibility of the School of Graduate Studies at the University of Toronto arises from the fact that we have reasonable strength across the entire academic board, and that we can offer advanced degrees in most of the major divisions with assurance of maintaining standards. In the sciences, both pure and applied, there is a wide diffusion of graduate strength throughout Canada, thanks largely to the conscientious policy of the National Research Council of supporting and helping to build up graduate work in science in all the provinces. But in the humanities and social sciences Toronto plays a dominating role. This is attested by the distribution of fellowships awarded by the Canada Council, fellowships which are restricted to graduate work in the humanities and social sciences, and which make up by far the largest subvention for graduate work in these areas. Of the 115 graduate fellowships that were held in Canadian universities during 1960-61, 50 were held at the University of Toronto; the remainder were divided in small groups among thirteen other universities. No doubt this situation will change, and

*“We have a curricular
system that demands
the same maturity
of treatment at both
the undergraduate and
the graduate level”*

we shall see a healthy development in the direction of wider diffusion. But this cannot be so easily achieved in the humanities and social sciences, because a good graduate school in these areas is not produced overnight by the installation of equipment and laboratories, or even by the hiring of two or three senior members of staff. Research here demands an accumulation of books that have been carefully assembled over a number of years, and a tradition of scholarly commitment that cannot be called into existence by the most elaborate administrative flourish. Even Toronto has a long way to go before its facilities match its responsibilities. The library is still inadequate for major research work, the staff does not yet receive enough allowance for graduate instruction, and residential facilities for graduate students—to which Massey College will make a first and distinctive contribution—must be a continuing concern.

I have described the growth of graduate studies as the inevitable response to major social forces, and I have suggested that the response is not only inevitable but desirable—a source of strength to the university. Any sudden expansion of one area of the university, however, immediately raises questions. The growth of graduate studies and research has raised a good many. In educational literature and discussions you will find increasing reference to “airport professors,” more interested in preparing for a seminar in Tokyo than for the class down the hall; to “professors of

distinction," generally incomprehensible to their colleagues and invisible to their students; to departments carefully organized to seek out and secure research grants, but careless of undergraduate curricula. These are real developments that one cannot dismiss as a piece of academic fantasia. But they are not endemic in graduate schools. The normal healthy ethos of a graduate school is thus described by Sir Hugh Taylor, former Dean of Graduate Studies at Princeton, and now President of the Woodrow Wilson National Fellowship Foundation: "It is a commonplace that the satisfactions of the academic life to members of the faculty are enhanced by that master-disciple relationship which comes with a vigorous, healthy program of scholarship and research at the graduate level. Good faculty rightly demands the opportunities that come with good graduate students."

I think Sir Hugh's remarks are applicable here at Toronto, chiefly because we have a curricular system that demands the same maturity of treatment at both the undergraduate and the graduate level. There is never any thought of making appointments to the staff either from a strictly undergraduate or a strictly graduate point of view. The approach to the subject differs between the two areas only in terms of intensity and depth. The key here is the Toronto honour course system, traditionally a source of pride, and now, even more than ever before, our distinctive mark. The honour course was designed to be an end in itself, to provide a liberal

education by the process of judicious specialization. In this it has been successful. But it has also provided a matchless preparation for advanced work, whether in the same field or in some professional area; and the recent dramatic increase in post-baccalaureate studies finds the honour course graduates in the vanguard. Statistics about the graduating class of 1959 in the various honour courses illustrate this. The total number who obtained the B.A. in honour courses in that year was 323, of whom 274 have been traced. One hundred and thirty entered graduate schools here or elsewhere; 128 went on to professional schools, the majority in education. Allowing for a certain number of duplications of those who did both postgraduate and professional studies, there were at least 228 of the class of 323—over 70 per cent—who went on into some form of post-baccalaureate education. The presence of the honour course graduate is especially apparent in the Faculty of Law, even though that profession vies with Laban in exacting long qualifying service from its devotees. Of the 26 students who entered the Faculty of Law in the fall of 1959 and who had taken their pre-legal education at the University of Toronto, 15 were graduates of four-year courses.

The high incidence of postgraduate studies among graduates of the honour courses is accompanied by a high degree of success. The judges who selected the Woodrow Wilson Fellows—young men and women in their final year, desirous of going on to a

*“The honour student
is a serious worker...
encouraged to develop
his individual interests
and to explore these
interests with single-
minded devotion”*

graduate school in preparation for a career in university teaching—were obviously impressed by the fitness of Toronto undergraduates for graduate work. During the year under review, Toronto won 25 of the Woodrow Wilson Fellowships; we were surpassed in Canada and the United States only by Harvard, Yale and Princeton.

What, then, are some of the qualities of the honour course at Toronto that put it in a class by itself? In the first place, the honour course is based upon a conscious decision taken by the student when he enters the University to commit himself to the study of a major area. This is not a question of narrow subject specialization, for all honour courses in varying degrees provide for work in related areas, and for occasional forays into areas not clearly related to the major interest. But all honour courses move, with varying degrees of intensity, toward a point where a thorough mastery of one subject is the ultimate concern. The assumption here is that only by thorough penetration into the complex problems of a subject does the student achieve the firm base from which he can move outward into other areas. With the disappearance of the firm edges of subject-matter, a thorough knowledge of one basic area can never lead to rigid specialization; for the questions raised force one to explore an ever widening terrain.

The second principle of the honour course is that it is based upon a progressive and systematic study of the subject through the use of primary

material. Honour courses eschew the magisterial survey, which substitutes abstractions for precise observation and historical padding for detailed knowledge of the texts. The honour student rapidly realizes that he, in his humble way, is a serious worker in the field, allied with thousands of others who have gone before and with the thousands who are working simultaneously.

Although the honour course is systematically arranged so as to move through the major areas of the subject, it does not demand of the student an encyclopaedic mastery of facts, and it does not employ the typical American system of assignments. The student is encouraged to develop his own individual interests, and to explore these interests with single-minded devotion. The examination system encourages this exploratory technique, since it is designed to test not what the student knows superficially, but what he knows intensively.

Finally, the honour course becomes in the University the intellectual, and, to some degree, the social home of the student. Throughout the four years he lives and works closely with a relatively small group of fellow-students who share his intellectual interests and passions. He is not collecting credits or points, he is not passing a series of discrete examinations; he is engaged, with others, in a continuous intellectual adventure which should give a vivid centre to all of his undergraduate activities. As he becomes more senior and his own

interests develop, he meets his professors on an increasing basis of intellectual camaraderie.

A system such as this rests upon certain assumptions about the entering student. It must assume that the student entering the University has achieved a reasonable degree of maturity, and is in a position to make a serious and a valid choice of his own interests. The honour course system, then, depends more than any other upon the achievement of high standards in secondary school education, particularly in the work of the final school year. Here we have the main reason why the University of Toronto takes a keen interest in secondary school problems; an interest that becomes all the keener in the light of a tendency for more and more students at this University to elect honour courses. For many years the distribution in numbers between the honour and general courses has been almost equal, but the latest figures for this year indicate a major shift toward the honour course, from roughly a 50-50 alignment to a 40-60 alignment. This may be an indication that the University of Toronto is becoming predominantly an honour course university. Now that more universities are being established, a greater diversity in educational philosophy is appearing. As long as we had the responsibility for educating about one half of the students of Ontario, we could not justify an undue emphasis on honour work. But now that the proportion for whom we are responsible is decreasing, and will

*“General education
is a task particularly
congenial to the new
institutions... Toronto
could increasingly
put more emphasis
on its honour and
postgraduate role”*

continue to decrease, we have become free to concentrate on what we can do best. Other institutions will assume the task of general education, and will attack its problems in a single-minded and exploratory way that this University could not match. That task will be particularly congenial to new institutions; there the academic *tabula rasa* invites unorthodox inscriptions. Among such new institutions York University, now firmly established at Glendon Hall, promises to be the boldest and most experimental. We see here the operation of a process of natural selection, whereby we achieve an increasing degree of differentiation among institutions of higher learning, so that in the future Toronto could increasingly emphasize its honour and postgraduate role in the full knowledge that other institutions would discharge other and related responsibilities.

The honour course system, as I have said, rests upon the basis of a high level of achievement in the secondary school. My awareness of this is the principal reason for making certain suggestions about the final year of the secondary school curriculum. It is natural for those of us who work at the university level to see the high school problem predominantly in university terms. But that does not mean that we are ignorant, or forgetful, of the other obligations that the high schools must undertake. All we say is that there should be a proper recognition of the university in the devising of high school curricula, and that the ideal of

the secondary school as, first of all, an institution capable of giving a strong academic education should never be abandoned. After all, this kind of education does not need to be justified as preparation for the university; it is the best education for meeting the complex demands of present-day society, and should be available to all who are capable of academic work, whether they go on to further studies or not. Moreover, we must not get into the habit of surrendering early educational positions in the expectation that we shall be able to take up a firm stand at a later point. No educational year from the earliest to the most senior can be sacrificed; each must make its full contribution to the total process.

In my remarks last year about Grade XIII my main emphasis was placed on a departure from accepted practice in that year. In the light of our reluctance to follow the American pattern of the junior college, it is all the more important that the final year of the secondary school be a year of intellectual adventure, in which the writing of essays and the solution of problems are more important than the recitation of facts and the passing of "objective" examinations. It should be a year when the student is given some glimpse of the range and allure of a subject. It is good to receive assurance that these ideas are widely accepted. During the year, the Ontario Matriculation Board, which draws its representation from the senior members of all the major Ontario universities, discussed many of

these problems and is now in the process of drawing up a series of firm recommendations. It is also gratifying to know that the Department of Education, despite the heavy administrative burdens that it carries and the attention it must give to complex social factors, has been receptive to the proposals that are coming from the universities.

Even the most adventurous and painstakingly elaborated curriculum declines into uselessness if it is not placed in the hands of first class teachers who understand the goals and have the scholarship in their field to achieve them. Certainly we have already many such teachers in our secondary schools, particularly in the humanities. But for some time now it has been most difficult to attract first class students of science and mathematics to the high schools. In these areas, frank doubts are expressed as to whether we could find the teachers capable of implementing a new and experimental curriculum. The problem is no longer basically a financial one, as the financial returns, particularly at the beginning of a teaching career, are competitive with universities, and in some respects with industry. The problem is primarily one of finding a method of preparing for a teaching career that is attractive and intellectually stimulating in its own right. I doubt whether even the most enthusiastic defender of the present system of teacher training for secondary schools would say that these conditions obtained today. The present system suffers from its undue isolation

*A committee...“free
to stress the continuum
of education from
kindergarten to
university”*

from the university, and from a conspicuous absence of the usual academic procedures by which vigorous and salty democracy is maintained within a university faculty. On the other hand, there is no disposition here to adopt as an alternative the pattern whereby the training of teachers becomes the concern of an ever expanding Faculty of Education, to which the more ancient divisions of the university become merely indigent satellites. The current expansion of teacher training facilities gives us an opportunity to improve our method of procedure in teacher education. This may well be the key to our whole educational enterprise. I express the hope that the opportunity will be seized with vigour and imagination.

Many of the ideas that I have raised and discussed briefly in this Report were first examined in a special committee that I established two years ago known as the Committee on Policy and Planning, which during the year under review has been given a more formal and precise structure by the appointment of a Director, Dr. Robin Harris of the Department of English in University College, and of a secretary, Mrs. Frances Ireland, a member of my own office. The Committee has thus become in effect an Institute of Higher Education, free of the paraphernalia of courses, examinations and theses, and staffed by scholars active in teaching and research in their own disciplines. The Committee not only provides a more varied and representative intellectual

background for administrative decisions, but it also projects the University's deep concern with matters of education. Indeed, so important are educational problems these days that we dare not leave them to the professional educationists.

A venture that will have far-reaching long-term results was initiated during the year. Five members of the Committee on Policy and Planning and five members of the Toronto Board of Education were appointed to a Joint Committee of the Board and the University to explore problems of mutual concern and to report to the Chairman of the Toronto Board of Education and the President of the University of Toronto. There are two obvious reasons why such co-operation between the Board and the University is expedient: the first is that a very large number of students from the secondary schools of Toronto attend the University of Toronto; and the second, that the physical proximity of the two institutions makes it easy for each to take advantage of the facilities of the other. But the Joint Committee was conceived in terms that went far beyond the problems of local administration. It is designed to bring together those actively engaged in teaching at all levels of our educational system, and to take an over-view of fundamental problems; its members are not committed to the protection of vested interests at any stage of the educational process; they are free to stress the continuum of education from kindergarten to university. The great-

est credit is due to the Toronto Board of Education for making the original proposal in such broad and imaginative terms. The Joint Committee's first action was to initiate studies of certain subjects of the curriculum by study groups, each of which included elementary and secondary school teachers and university professors, with the Director of Research of the Toronto Board of Education, the Librarian of the Education Centre, a member of the University's Department of Psychology, and others, available as consultants to the teams. As far as we know, this particular approach to curricular studies is unique on this continent. Obviously the curriculum must change and develop as knowledge increases and technology provides new tools for learning. Too often, however, changes in the curriculum are made in piecemeal fashion, without sufficient study, without reference to the theory of learning, and—most serious of all—without the direction of active teachers. This project of the Joint Committee may well be the beginning of an important development in educational research.

I began last year's Report by referring to the events that brought to a conclusion the highly successful National Fund. Work on the Fund has by no means ceased, and it is a continuing concern of the Development Office. During the year, however, the Development Office shifted its main emphasis to the development of a programme of annual giving. A long, sustained period of activity culminated in the establishment of a

*The Varsity Fund's
importance in those
enterprises "which
make the difference
between greatness
and mediocrity"*

Varsity Fund, of which most of the major divisions of the University are members, along with two of the federated colleges, Victoria and St. Michael's. Although it was clear that a programme of annual giving should not be pushed vigorously hard on the heels of the capital campaign, yet it was equally clear that the enthusiasm which had been engendered in that campaign should not be permitted to dissipate itself, or the organization so carefully devised be permitted to disintegrate. Previous all-University annual giving programmes had not achieved any conspicuous success, and the memories of those enterprises were a psychological block to a new approach. Yet, after a period of intensive discussion and inquiry, there finally emerged a firm structure upon which we can now build, slowly at first, but with increasing speed and assurance. An annual giving programme rests upon the double assumption that local appeals must give way to the over-all University need, and that goals of a limited and peripheral nature must give way to those of a central and enduring character. At the same time there is no disposition to deny the constituent members the right to satisfy their particular interests, some of them sustained over a long period. It has been arranged that in no instance will a co-operating division lose control over those enterprises that it regards as peculiarly its own. With the federated colleges, complete control is retained by the constituent body. The colleges thereby retain their autonomy

and, at the same time, gain strength and support from a University appeal.

The Varsity Fund is a complement to the big campaign for capital purposes. It may well, over a period of years, play a more important role in the University. Its importance becomes more apparent as the demands on the budget grow in number and diversity, with the consequent difficulty in finding money for those enterprises that seem at first blush to be expendable. But these are the very enterprises that make the difference between a great university and a mediocre one, between the university that wins the affection of its graduates and the one that elicits only a cold respect. A happy augury of the success of the Varsity Fund is the acceptance of the chairmanship by Mr. Robert Chisholm, a graduate of Victoria College in Commerce and Finance, who had been one of the key workers in the National Fund campaign.

A successful annual giving programme will not be developed in isolation, but must be worked out in close relationship with a programme whereby the alumni are given a sense of belonging to an important constituency. This is the job of the Director of Alumni Affairs, Mr. Evans, and it is a job that demands careful preparation, pertinacity, skill, and a philosophic resignation to many initial disappointments. Already, however, there are changes for the good, many of which were brought into sharp focus by the Alumni College held during Convocation Week. The alumni representatives were given a chance

to discuss university problems and to hear addresses from prominent members of the staff. This is a kind of activity that admits of great development and elaboration, and that promises much.

This year was, like the preceding one, a ceremonial year. It began with the laying of the corner-stone of the new building for Arts and Science by Mrs. Sidney Smith, a ceremony significant in itself and, in addition, a memorial tribute to Varsity's seventh president. The other two major ceremonies were the opening of the Galbraith Building for Engineering, and the laying of the corner-stone of the Edward Johnson Building for the Faculty of Music. The former marked the official incorporation of the Galbraith Building into the Engineering complex. One of the most pleasant features of the building is the provision of a council chamber for the Faculty Council meetings, which I, as a connoisseur of such affairs, look upon as a model of dignity and efficiency. The ceremony at the Edward Johnson Building was a dramatic reminder of the high estate occupied by music in the thoughts and affections of the University and the city. Rarely has an event of this kind attracted a larger audience. The occasion was made particularly memorable by the presence of Mrs. George Drew, the daughter of Edward Johnson, who in a graceful speech brought back memories of the Canadian who was equally illustrious as Edouardo Giovanni, the celebrated Italian tenor, or Edward Johnson, Director of the

*Medicine gets a new
Dean, Massey College
a Master-Designate*

Metropolitan Opera and principal spokesman for the cause of music in Canada.

During the year we were especially fortunate in our Convocation speakers. At a special Convocation before the opening of the Galbraith Building we had as our speaker Paul Hoffman, Managing Director of the Special Fund of the United Nations, as stimulating and delightful on the public platform as he was in private conversation. Frederick Gardiner spoke to the graduating classes in Applied Science and Forestry with scholarly vigour, emphasizing the qualities that are needed for effective citizenship in the modern state. At the final Convocation in June, the first speaker was John Kenneth Galbraith, formerly Professor of Economics at Harvard, and recently appointed American Ambassador to India—one of the eighteen graduates of this University who are now occupying ambassadorial posts. His speech was a demonstration that diplomacy had not robbed him of his powers of incisive expression, nor political success of his capacity to rouse and disturb. The second speaker was Sir Hugh Taylor, President of the Woodrow Wilson Fellowship Foundation, who delighted his audience by some uninhibited praise of the Toronto record in open competition for these fellowships, and then went on to place before us the strategic urgency of trained minds.

From time to time it becomes necessary to appoint a new man to a senior office in the University. The most important of these appointments during

the year was that of Dean of Medicine, vacated by Dr. MacFarlane after fifteen memorable years in that office. As his successor the Board of Governors appointed on my recommendation Dr. John Hamilton, Professor and Head of the Department of Pathology. The office of Dean of Medicine is always an important one, perhaps even more so at this time when so many of the traditional patterns are being called into question. I set out here a formal academic biography of Dr. Hamilton, in order that the range of his experiences and the variety of his achievements may be duly noted: M.D., University of Toronto; further studies, teaching and research in pathology at Cambridge University and Johns Hopkins University; research in England and Italy during the Second World War as a member of the Royal Canadian Army Medical Corps; Assistant Professor of Pathology, McGill University; Professor of Pathology and Head of the Department, Queen's University and University of Toronto; Pathologist-in-Chief, Toronto General Hospital; Chairman of the Medical Committee of the Ontario Heart Foundation; member of the Medical Advisory Committee of the National Research Council; joint representative of the National Research Council to the National Cancer Institute; author of many articles on arteriosclerosis, immunology, wound infection, experimental glomerulo-nephritis.

Fortunately it is not necessary to chant the Nunc Dimittis for Dr. MacFarlane; he has been appointed to a

new post in the University, that of Chairman of the Medical Sciences Advisory Council, a Council made up of the heads of the Faculties of Medicine, Pharmacy and Dentistry, the Schools of Nursing and Hygiene, and the Connaught Medical Research Laboratories. The Council was established to encourage a greater degree of co-operation among these various divisions concerned with many common problems, and to provide a means for attracting research funds to these areas. The appointment of Dr. MacFarlane took on a particular timeliness with the announcement by the federal Government of the setting up of a Royal Commission on Health Services. It immediately became apparent that one of Dr. MacFarlane's major duties for the first months of his occupancy of his new job would be to arrange for the co-ordination of briefs to be presented to the Commission.

Another major appointment during the year was that of Robertson Davies as Master-Designate of Massey College. The appointment of one who had become Canada's most versatile and accomplished man of letters was an indication of what the College would mean in the expanding Toronto commonwealth. It would be a college where good writing and good speech would flourish, where serious purpose would never be divorced from wit and humour, where scholarship would be served without pomposity.

At a dinner held in honour of Dr. W. E. Blatz, tributes, diverse in nature but alike in their enthusiastic warmth, were paid to Dr. Blatz, who

*A way to encourage
good teachers to join
African universities*

was retiring from the directorship of the Institute of Child Study, although happily retaining some of his academic responsibilities. His successor is Professor K. S. Bernhardt, wise in the ways of the Institute, admired by his colleagues for his scholarly integrity and for the humane leadership he has given in the University and in his own discipline.

Professor R. C. Pratt of the Department of Political Economy has become Principal of the University College of Tanganyika, Dar es Salaam, and Professor A. B. Weston of the Faculty of Law has gone to the same institution as Dean of Law. It is a satisfaction to record these initial steps in what we hope will be a continuing association between this University and the University College of Tanganyika. It is evident that for some time to come African universities will have to rely on expatriate teachers to fill their needs, but their attempts to recruit such teachers have often been unsuccessful—the teachers, understandably, fearing that they might have trouble in finding posts at home when their assignments in Africa came to an end. We made a flexible arrangement with Professor Pratt which provides that if at any time during the next five years he decides to return to the University of Toronto, he can do so without losing his status and seniority in his Department. Thus we have met and solved a problem in the staffing of African universities, and our solution has aroused wide interest. Professor Pratt's task of getting the College off

to a good start will be difficult and exciting; it will also be self-liquidating, because the crowning success will come when he is able to relinquish the Principalship to a native educator.

There have been other changes closer to home. Professor O. H. Warwick of the Department of Medicine has been appointed Dean of the Faculty of Medicine at the University of Western Ontario. Dr. A. J. Elliot has accepted the Chair of Ophthalmology at the University of British Columbia. Professor R. L. McIntosh has become Head of the Department of Chemistry at Queen's University. From the University Library, Mr. David Foley has left to become Chief Librarian of the University of Manitoba, and Miss Lorna Fraser and Mr. D. Reicher have taken responsible posts in the libraries of York University and the University of Alberta, respectively. Thus the University continues to be a source of supply of senior academic personnel throughout Canada.

Several of the members of staff who have reached retirement age are continuing to assist their departments as Special or Graduate Lecturers; these include Professor D. J. McDougall in History, Professors D. S. Ainslie and K. M. Crossley in Physics, Drs. W. G. Carscadden and C. H. Watson in Surgery, and Professor E. W. Park in Household Science. Professor J. D. Ketchum, who retired last June, has been granted a Senior Fellowship for study in England by the Royal Society of Canada. Profes-

sor Ketchum is one of a family whose name is identified in Ontario with a consuming interest in young people and their education. His early career in music received a set-back when he was interned in Germany for the entire period of the First World War, but he emerged to become music master at Trinity College School and later organist and choirmaster at St. Simon's Church; simultaneously he completed his academic work here and at the University of Chicago, and joined the staff of the Department of Psychology, which he has served for more than thirty years, interrupted only by a term of duty in the Wartime Information Board at Ottawa. For years the Student Christian Movement and the Department of Psychology regarded no important occasion as complete until Professor Ketchum had written a song about it, and we may hope that the grandeur of Psychology's new quarters will not escape his wit and gentle raillery. Another music-lover who has just retired is Professor A. P. Haig of the Ontario College of Education, a graduate of the old Education course and of the Pass Course for Teachers, a noted baritone soloist, music teacher at Harbord Collegiate for twenty-seven years and at the College of Education for eleven.

The Department of Botany has had the tragic experience of losing during the year two active members of its staff—Kathleen Hull, Assistant Professor and Librarian, and A. J. V. Lehmann, Associate Professor, both of whom had served continuously for

*Rotary International
House illustrates the
University's expanding
role in creating
an international
community*

over thirty years. It was Professor Hull who organized and consolidated the outstanding botanical library, and to that work as well as to her teaching she brought a fine mind and a friendly and generous spirit. Professor Lehmann, who came to Toronto to do research after obtaining his Master's degree at the University of Alberta, was an inspired teacher, an active protagonist of the conservation movement, and a gracious, co-operative colleague. Another loss from the active ranks of the staff was occasioned by the sudden death of Boris Davison, Associate Professor of Physics and Mathematician in the Computation Centre. Though scarcely over fifty when he died, he had made important contributions to the theory of neutron transport and to the mathematical representation of nuclear processes, and was known at Harwell and Chalk River as a sound and original theoretical scientist. Yet his modesty endeared him to students and colleagues as greatly as his intellect commanded their respect. Robert Charles Wiren, Professor of Mechanical Engineering, was a colourful and charming man who will be long and affectionately remembered. He was born in Estonia and educated in St. Petersburg; he served as an artillery officer in the Imperial Russian Army; after studies at the University of Prague, he came here to take his degree in Mechanical Engineering. Coming on staff in 1931, he was active in professional associations, and took a special interest in the problems of immigrant engineers.

Finally, we must record the deaths of two Professores Emeriti, R. W. Angus and Alan Brown. Professor Angus was our first Professor of Mechanical Engineering and the first Head of that Department; the old Mechanical Engineering Building was largely designed by him. He was a versatile scholar, widely travelled, knowledgeable about engineering activities in many countries, always active in research; he was the author of two books and numerous papers; and he received the Fuller Award of the American Waterworks Association for his research in water hammer and other hydraulic subjects. He took his B.A.Sc. degree here in 1897, and served on the staff from 1900 to 1944. Dr. Alan Brown was our first Professor of Paediatrics. He graduated from the Faculty of Medicine, did post-graduate work in the United States, the United Kingdom and Germany, and served on the staff of the Faculty of Medicine from 1914 until his retirement in 1951. He was one of the first doctors to make a specialty of paediatrics, and by virtue of the depth of his knowledge and the forcefulness of his character he exerted an extraordinary influence on the care of children. He made the Hospital for Sick Children one of the best known centres of child treatment and research in North America, and a whole generation of "baby doctors" were trained under his exacting eye. The prevention of illness engrossed him as much as the cure, and he was a militant and successful crusader for many hygienic measures, such as the pasteurization

of milk, which we now take for granted. In the history of Canadian medicine, Dr. Brown's is a towering figure.

Each year we record a great number of benefactions, and it is my privilege to acknowledge the gratitude of the University to the individual donors. This Report can only single out for emphasis those of particular significance. I would mention this year the setting up by Mr. Garfield Weston of the Banting and Best Foundation, income from which will go for medical research in the University of Toronto. I should also mention the beginning of a campaign by the Rotary Clubs of Toronto and district to raise a sum of approximately \$250,000 for the building of an International House. Already Rotary has been able to show excellent results and is building an efficient administrative structure by which the balance will be raised. The decision to embark upon this enterprise is a tribute to the international spirit for which Rotary is justly renowned, and it is also a tribute to the work of Friendly Relations with Overseas Students, an active voluntary organization for the reception of foreign students. The University must give increasing attention to its ever-expanding role in the creation of an international community.

As the University moves into the most exacting period of its physical expansion, the administrative burden placed upon my senior colleagues in the administrative offices becomes more and more onerous, particularly

*Cross-appointments
with the colleges will
mean wider diffusion
of teaching strength*

for the Vice-President (Administration), Mr. Frank Stone, and for the Superintendent, Mr. Frank Hastie. Both of these officers cope daily with a bewildering mass of detail, and it is a tribute to the wisdom and patience of both that they have won the support and admiration of their colleagues, both academic and administrative.

The Registrar also faces a formidable task, when to the problems of dealing with the expansion of the student body is added the complication of constant educational revision and reassessment. His office must be the repository of information and the source of expert guidance for the various committees fathered by the Senate and the various Faculty Councils; on this expertise depends our whole system of government by academic committees. Moreover, his office is the key point for the assembling of accurate, detailed statistical information which is needed as never before. I suppose that it was the advent of the federal subsidy that spelt the end of the old casual habits of registering and recording the enrolment and progress of students; for ever since then the exact and early census of our population has had a direct bearing on our income. Accurate statistics are needed by government departments, and they have also become an essential basis for our own planning and administration. We can no longer afford to indulge in a Luddite mentality, but must see to it that mechanical procedures such as enumeration and record-keeping are

mechanized and centralized as quickly and thoroughly as possible. But the main registrarial responsibility—and this the University Registrar shares with the college registrars and the secretaries of faculties and schools—is to make sure that the student's introduction to the University is not made dark by confusion and painful by bureaucracy. This is, as I have said, a registrarial responsibility; it is also a university responsibility; for any official—be he a model of kindness and efficiency—will be helpless without the understanding and co-operation of the academic staff.

In previous Reports I have referred to discussions that have taken place with respect to changes and adaptations in the concept of federation. More than ever, we are conscious of federation as the basis of this University and the best guarantee against some of the undoubted dangers of bigness. But it would be a pity to continue the conventional eulogies of federation without looking closely into its relevance to modern conditions. For some time now the Dean of Arts, the Principal of University College and I have been discussing with the heads of the three federated universities the possibility of making certain changes in the mechanics of federation, whereby there would be a wider diffusion of our teaching strength throughout the University. We are agreed that the present situation should not be frozen into an inflexible status quo, and that the federated universities should be able to exert the influence upon their students that

their traditions and resources warrant. The problem can be simply stated: the restriction of the colleges to certain subjects cuts them off from direct academic influence on a great many undergraduates. At the same time the university departments have their own lively sense of identity, and have no desire to be fragmented. The solution is to adopt formally a system of cross-appointments, which would operate both from university departments to colleges and from colleges to university departments. In this way both the University and the colleges retain, and indeed strengthen, their academic position. I give below a memorandum which summarizes the discussions and the agreements reached with respect to cross-appointments. The process will begin on a modest basis, and will, I am confident, grow smoothly and effectively into an essential part of the academic structure of this University. One of the happiest results of the agreement will be the extension of the practice of teaching in small groups. The memorandum suggests the following general procedure:

1. In the case of a cross-appointment of a member of a university department to a college staff, the head of the College will first obtain the agreement of the head or chairman of the university department, of the Dean of the Faculty of Arts and Science, and of the person nominated for cross-appointment. No cross-appointment can be made if there is not complete agreement at each stage of the discussions. The salary of the

*Residential colleges:
new ideas unite with
the old to bind them
closely into Varsity's
academic structure*

cross-appointee will continue to be paid by the University, and the University will be responsible for promotions. The College will reimburse the University for the amount of time which the cross-appointee gives to the College.

2. In the case of an appointment to a college staff of a scholar engaged in a discipline at present in the care of a university department, the College will make the appointment only with the agreement of, and under the conditions approved by, the head or chairman of the university department concerned, and of the Dean of the Faculty of Arts and Science. The salary of such an appointee will be paid by the College, but the University will reimburse the College for the amount of time which the appointee gives to university instruction. Promotions will be made by the College, but, in each case, only with the agreement of the head or chairman of the university department concerned and of the Dean of the Faculty of Arts and Science. At all times, the colleges will keep each other informed of proposals for cross-appointments in either of the two categories.

This agreement is a logical extension of what already exists. A much more acute and difficult problem is to make sure that the principles of federation are not ignored in the new areas of the University. In the early planning for the western extension of the campus, the principles of federation were not always kept in mind. The University might very quickly have developed acute schizo-

phrenic tendencies, with one division drawing its strength from tradition and precedent, and the other rejoicing in its rootlessness. The mark of the latter would have been the large, apartment-like residences poised on the western edge of the campus, constituting an academic suburbia, removed from the life of the University, turning their faces toward the Spadina traffic and the other skyscraper apartments destined to arise nearby. An extension to the campus conceived in this way might well have determined the dominant spirit of the University, and forced the existing colleges into a backwater. To avoid this, the first step was to think of the residences as closely related to the rest of the University, each with its own sense of a distinctive identity. It has now been decided to build four separate residences, each four stories in height, spaced so as to make full use of the land to the west of the instructional buildings now rising along St. George Street. The question then arose: how could these residences be bound closely into the academic structure of the University, or in other words how could we approximate, for the new residences, the all-pervasive academic bond which the existing college residences already have? After a good deal of

discussion, the concept of a new kind of residential college emerged, which would have obvious ties with the old, but which would incorporate new ideas, and thereby create a distinctive academic unit.

There will be four main characteristics of the new residential college. First, like the present colleges, it will have its own academic government, with a principal and registrar who will be entrusted with the general academic well-being of the college. Second, in accordance with the developments that I have sketched above, there will be a series of cross-appointments from the university departments to the residential colleges. The staff given such cross-appointments will have offices in the colleges and will be expected to perform tutorial duties, but will remain firmly anchored to their present departments. The instruction in the new colleges will be much less formal and substantial than the instruction in the existing colleges, and will be confined largely to tutorial duties. Third, like the present colleges, there will be non-resident members for whom provisions will be made in the design of the buildings. Fourth—and this is an innovation in terms of the Toronto tradition—these colleges will not be exclusively in one faculty, as the pres-

The next four pages are devoted to illustrations showing the sites of the four residential colleges, their relationship to the existing buildings and to the other buildings which will be erected on the West Campus. As no detailed structural plans have been approved, the shapes shown on the air view and the map are approximations. The Report of the President is concluded on Page 30.



Broken white lines at the left of this air view show locations set aside



for the residential colleges which the President discusses in his Report

THE WEST CAMPUS

MEN'S ATHLETIC BUILDING
PROPOSED SITE

BENSON BUILDING (WOMEN'S
ATHLETICS) OPENED IN 1959

SITES FOR FOUR
RESIDENTIAL COLLEGES
PRELIMINARY PLANNING STAGE

CONNAUGHT MEDICAL
RESEARCH LABORATORIES
SPADINA DIVISION

SITE FOR BUILDING TO HOUSE
SCHOOL OF BUSINESS AND
SCHOOL OF SOCIAL WORK

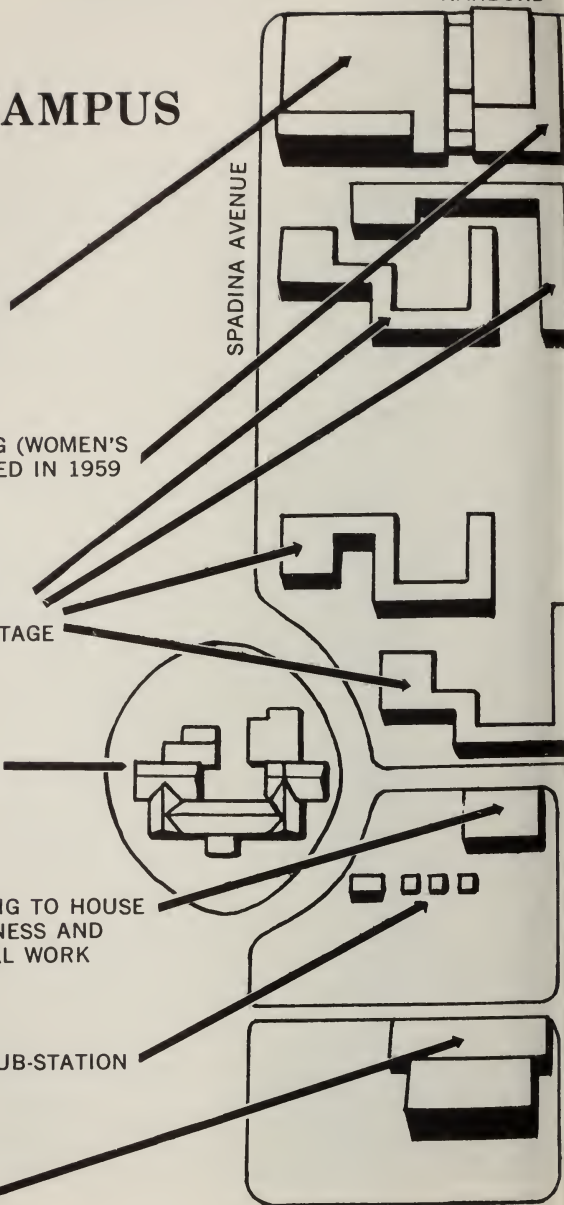
HYDRO SUB-STATION

SITE FOR PROVINCIAL
PSYCHIATRIC HOSPITAL

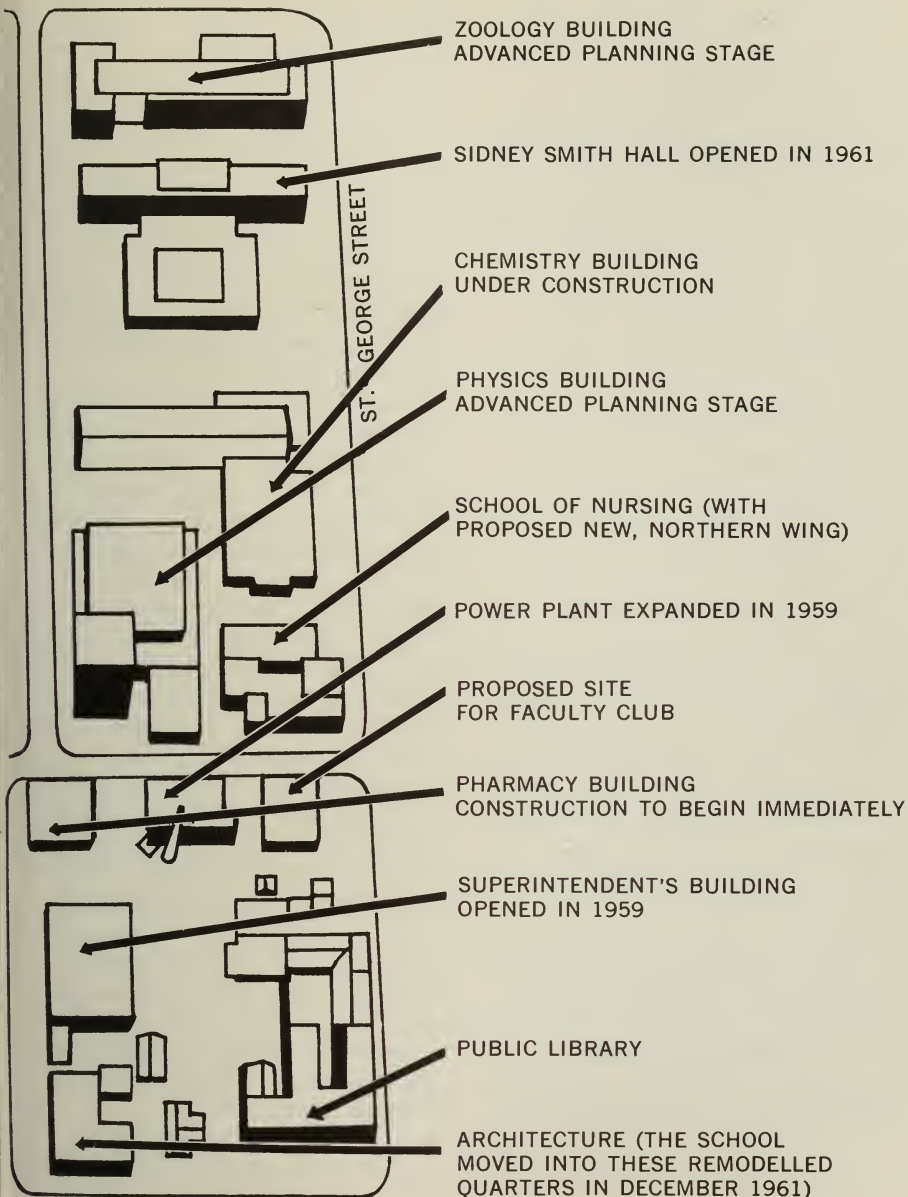
SPADINA AVENUE

HARBOR

COLLEGE



STREET



STREET

ent colleges are; they will be multi-faculty bodies, with both students and staff coming from various divisions of the University.

What are the advantages of this new scheme? In the first place, the scheme will preserve the continuity between the old and the new, and, spiritually at least, will make the crossing of the St. George Channel far less harrowing than the present physical crossing actually is. The new colleges will enable us to preserve the concept of the small unit within the large, cosmopolitan University. The appeal of the college to the loyalty of its student members will be intellectual as well as social; it will be a community, not a club. Secondly, on a strictly academic plane, this scheme will provide much-needed tutorial instruction, particularly in the scientific and mathematical subjects. Up till now this principle has not been firmly established, with results that are often painfully evident in the examination results. Thirdly, the multi-faculty character of the colleges will extend the benefits of college membership beyond the Faculty of Arts and Science, and will reduce the sense of intense professional identity that often arises as soon as a student in one of the professional faculties enters the University. A student in a professional faculty has a lifetime to demonstrate his professional loyalties; for a few years he should think of himself as first of all a university student, and

only secondarily as an aspirant to membership in a profession. Fourthly, for the Faculty of Arts and Science itself, the most helpful aspect of the extended college system will be the provision thereby made for Arts students who would otherwise crowd into the present colleges and overwhelm them with numbers. I have in mind particularly the problem of University College, which has already passed the 2,000 mark, and which would undoubtedly suffer most if no other colleges were created.

There will be a number of subtle and complex problems to be solved in implementing the scheme. Certainly the scheme must always be worked out in association with the present colleges, since it is designed as a variation on the principles that they embody. In the last two years I have discussed this proposal fully with most of my senior colleagues, who in their turn have raised it in general sessions with their associates. The general endorsement of the theory promises well for the practice. The scheme has now received the official approval in principle of the Board of Governors. Tradition and circumstances have given us a chance to develop an idea, rooted in the past but responsive to change, bound to the present structure yet in certain places reinterpreting it, at one and the same time traditional and revolutionary—in short, a demonstration of the University in action.

CLAUDE BISSELL, *President*

**NATIONAL CONFERENCE
OF CANADIAN UNIVERSITIES
AND COLLEGES MEETS AT OTTAWA**

UNIVERSITIES, COLLEGES IN THE N.C.C.U.C.

ACADIA UNIVERSITY
UNIVERSITY OF ALBERTA
UNIVERSITY OF ALBERTA, CALGARY
ASSUMPTION UNIVERSITY OF WINDSOR
BISHOP'S UNIVERSITY
BRANDON COLLEGE
UNIVERSITY OF BRITISH COLUMBIA
CARLETON UNIVERSITY
DALHOUSIE UNIVERSITY
UNIVERSITY OF KING'S COLLEGE
LAVAL UNIVERSITY
UNIVERSITY OF MANITOBA
MCGILL UNIVERSITY
MCMASTER UNIVERSITY
MEMORIAL UNIVERSITY OF
NEWFOUNDLAND
UNIVERSITY OF MONTREAL
MOUNT ALLISON UNIVERSITY
MOUNT SAINT VINCENT COLLEGE
UNIVERSITY OF NEW BRUNSWICK
NOVA SCOTIA AGRICULTURAL COLLEGE
NOVA SCOTIA TECHNICAL COLLEGE
ONTARIO AGRICULTURAL COLLEGE
UNIVERSITY OF OTTAWA
QUEEN'S UNIVERSITY
ROYAL MILITARY COLLEGE OF CANADA
UNIVERSITY OF SHERBROOKE
ST. DUNSTAN'S UNIVERSITY
ST. FRANCIS XAVIER UNIVERSITY
SAINT JOSEPH'S UNIVERSITY
SAINT MARY'S UNIVERSITY
UNIVERSITY OF SASKATCHEWAN
SIR GEORGE WILLIAMS UNIVERSITY
UNIVERSITY OF TORONTO
UNIVERSITY OF ST. MICHAEL'S COLLEGE
UNIVERSITY OF TRINITY COLLEGE
VICTORIA UNIVERSITY
UNIVERSITY OF WESTERN ONTARIO
UNIVERSITY OF WATERLOO
YORK UNIVERSITY

OTTAWA'S

THE CRISIS in Higher Education deepens. University enrolment in Canada has about doubled in seven years to 114,000—and this total will almost triple (to 312,000) by 1970. Where will the staff, buildings and equipment come from?

About a hundred of the country's leading educators met at Ottawa in November to review their situation and to face up to this problem in all of its aspects. They represented the institutions which comprise the National Conference of Canadian Universities and Colleges. Spokesmen for the University of Toronto were President Claude Bissell, Dean Vincent Bladen, Professor J. Tuzo Wilson and Dr. Ray Farquharson.

The pressure of numbers was seen as a national problem of the first magnitude with no hope of solution on a piecemeal, regional basis. It was its strong conviction, said the N.C.C.U.C. in the preamble of a formal resolution, that a solution was a prerequisite to Canada's survival amid the intense international pressures of the age.

The resolution, which was presented to the Prime Minister, the Rt.

The deepening crisis is presented as a national problem calling for effective action by the Government of Canada

RESPONSIBILITY GROWS

Hon. John Diefenbaker, made three major proposals:

¶That the Government of Canada again be urged to increase the present federal grant from \$1.50 to \$2.50 per capita;

¶That in order to meet exceptionally high costs in certain professional and graduate courses it provide an additional supplement of \$500 for every student registered in medical, dental and graduate studies;

¶That, since Canadian universities are finding increasing difficulty in supplying the necessary new buildings for teaching and research in the sciences, the Government of Canada be urged to recognize that the national interest is here essentially involved, and that it provide a sum of \$50 million for such construction during the next five years, to be distributed under a formula of matching grants supervised by the National Research Council or by the Canadian Universities Foundation.

The Federal Government was asked to provide the Canada Council with funds for additional fellowships required by the growth in population and the rise in university enrolment.

All the emphasis should not be on the big institutions, the resolution pointed out: smaller universities and colleges were making a real contribution to the welfare of the nation; they needed help from local, provincial and federal governments and from private and corporate donors. From these sources, too, should come more money for scholarships, bursaries and loan funds.

The N.C.C.U.C. commended the Federal Government for its contributions to the Colombo Plan, the Commonwealth Scholarships, and for establishing the External Aid Office. More help was needed for overseas students. Those from Africa were singled out for special mention: Canada's interest in African students was appropriate because many would come from regions where French was the language of instruction.

The international responsibilities of Canadian universities were emphasized in another section of the resolution. Increasing attention should be given to the languages, history and philosophy of foreign countries, particularly those outside the Western European tradition.

Dr. Claude Bissell advises the university associations to put all of their Ottawa offices under a single roof

THE KEYNOTE:

THE MOOD WAS SCHOLARLY, the keynote was quality, and the problems—while tremendous—seemed surmountable as the National Conference of Canadian Universities and Colleges opened its sessions at Ottawa in November.

Five years before, the Conference had met in a different intellectual atmosphere. Before it then was the first Sheffield Report with a frightening forecast of floods of new students on the way. There was, too, a newly-born national sense of guilt engendered by failure to keep up with the Russians in scientific education; the demand for more and better engineers and scientists was insistent. Yet the 1956 delegates, their thinking geared to subsistence, had no long-range plan to meet either of these challenges.

The keynote speaker for 1961 was Toronto's President, Dr. Claude Bissell. He said he had been asked to consider major changes since the 1956 conference and to speculate on developments in the next five years.

The following article consists of extracts from his address.

We have continued to marshal our main forces on the numbers front [Dr. Bissell said] and in stimulating public concern we have continued to enjoy a high degree of co-operation from the Russians.

Certainly we have all detected a far greater readiness in all sectors of society to accept our own assumptions about the importance of higher education and the necessity of meeting its enormous needs, and acceptance has destroyed the old inertia. We have now reached a stage where we can see our problem in different terms, and express it in a more elaborate and stimulating context. We can talk about universities, not in terms of subsistence, but in terms of expansion; not as production lines for business and the state, but as a principal means whereby our economy, our political structure and our culture grow and change; in short, we can move from a quantitative to a qualita-

Excellence, Innovation

tive approach. I am not suggesting that for those of us who are inside universities it is a new approach. But more often than not we have discussed these qualitative problems in our own family circle, and have rarely noised them abroad.

During the last few years the economists have taken what I presume is a new, and certainly is a lively, interest in the problems of higher education, and they have given some of the old, crude arguments an engaging subtlety. What I call the crude economic argument is, reduced to its simplest factors, that universities are producers of an essential product, namely trained men and women, that our economy needs for its efficient and successful functioning; this is the kind of obvious cause and effect relationship that anybody can immediately grasp and it no doubt has served its turn in softening the recalcitrant. But it is a dangerous argument for it presents universities as glorified apprentice shops for business.

The diverting characteristic of the new sophisticated version of the economic argument is that it is embraced with equal ardour by both the right and the left. Speaking for the right, Peter Drucker says "The development of educated people is the most important capital formation; their number, quality and utilization the most meaningful index of the wealth-producing capacity of a country." He argues that education is not an overhead cost, but rather a capital investment. This means a fundamental change in the attitude toward investment in education. The economic approach to an overhead cost always implies the question: "Isn't it too much?"—while the economic approach to a capital investment always asks: "Is it enough?"

The leftist, or more precisely the liberal, interpretation of the economic argument is advanced by Kenneth Galbraith. In his view, the salvation of our society depends upon a channelling of our economic resources

into education, particularly higher education—education that will produce what Mr. Galbraith describes as the new class, a class whose primary identification “is with the job, rather than the income that it returns.” This is the class that will possess the knowledge and the technical resources that can never be supplanted by automation; this is the class that will plan and control the increasingly major developments that must take place in the public sector of society. “This being so, there is every reason to conclude that the further and rapid expansion of this class should be a major and, perhaps next to peaceful survival itself, the major social goal of the society. Since education is the operative factor in expanding the class, investment in education, assessed qualitatively as well as quantitatively becomes very close to being the basic index of social progress.”

A second cluster of educational ideas swarms around the word “excellence”, which now appears in publications and in conference agendas with remarkable regularity. It is a word, of course, behind which all can unite, for it is a sort of sterilized secular twentieth-century version of virtue. One suspects that often it is simply a catchword.

At least we can say that the repeated use of the word excellence indicates that we are interested in the qualitative; it is a way of saying that we are no longer concerned simply with doing the routine tasks for as many people as possible; that, rather, we are concerned with doing the best

possible task for as many people as possible.

The third cluster of ideas can be described as those that emphasize the role of the university as innovator, rather than as processor. Traditionally, so the argument runs, the university filled an essential, but repetitive and uncreative role of training each new generation in a basic set of ideas and techniques. This involved a relatively static body of knowledge and a formalized and unchanging way of presenting it.

Now, it is said, all that is changed; electronic devices have turned the world into a vast communication enterprise. Knowledge outstrips textbooks and it is impossible to arrest it and to reduce it to a pat formula. The professor is often more concerned with speaking to his colleagues three or four thousand miles away than he is with communicating with his students in the classroom. The university campus now expands to take in the whole world, and the international community of scholars, about which we spoke so glibly in commencement addresses, has now become a reality. Political and administrative revolutions have followed the intellectual revolution, and universities have become indispensable to the work of closing the gap between the less well-developed countries and the affluent societies.

It is a stagnant institution indeed that does not have some direct association with a new university in the underprivileged areas. The other day I heard a leading English educationist say that every vice-chancellor in

the United Kingdom carries in his wake at least two African universities.

These, then, are some of the leading ideas and attitudes that account for the change in temper between 1956 and 1961. They lead to an emphasis upon postgraduate work. If we need a new class of intellectuals and professionals, we shall find an increasing number of them in the graduate schools; if the universities are to become the centres of innovation, they must foster scholars who are constantly engaged in exploring the farthest reaches of their subjects; and even the search for excellence cannot be entirely satisfied on the undergraduate plane; it must be pushed—perhaps too precipitately in many cases—into the graduate school.

A great expansion in graduate work is one of our prime necessities. The scientists, thanks to the National Research Council, have achieved a high degree of national diffusion in graduate work. But in the humanities and social sciences there is no comparable achievement. The distribution of Canada Council fellowships in Canada supplies a national chart that is all too accurate: of the 113 fellowships given by the Canada Council for graduate study in the humanities and social sciences in Canadian universities during 1960–61; fifty were held at one university. We do well, then, to emphasize the need for increased facilities for graduate work, and to expound graduate studies, not alone in terms of the need for new teachers—which in a sense begs the whole question—but in terms

of the universities' responsibility for creating, organizing and diffusing new knowledge.

What, then, about the next five years? I would say that our principal problem is that of devising a way whereby we can speak on behalf of the universities in a strong and unified fashion. The very importance of what goes on in the universities, and their increasing appeal to many groups in society, creates the problem.

We see centrifugal forces developing both within and without—within, from particular groups of scholars determined to move forward as quickly as possible to goals that beckon brightly and urgently; without, from social institutions, whether governmental or private, that see in some university activity a means for implementing a policy or realizing a dream. There is nothing sinister about the multiplication of these centrifugal forces, and up to a point their unarrested development is healthy. It is not a question of tight centralized control, either within the individual university or in a national organization such as this. It is rather a question of the preservation of an intellectual community, of the conviction that no matter how various our particular goals, how diverse the means at our disposal, we are united in fundamental attitudes and aspirations.

I think that the most important event in the last five years was the reorganization of the National Conference of Canadian Universities and Colleges, whereby we have both a large and representative parliament

and a small cabinet—both of which are supported by a full-time secretariat. If anything, however, we have not gone far enough along the road that we have mapped out for ourselves. The N.C.C.U.C. is a lethargic body, except when it meets by special dispensation on occasions such as this. Usually its annual conference is an inconclusive and uninspiring epilogue to a series of meetings of societies, both learned and unlearned. And already there is a tendency towards the multiplication of national offices in Ottawa, each pressing forward in isolation on its own narrow front.

We need a "Universities House" which will contain all of those national offices—and whether we approve of it or not there will be more of them. I don't think we have yet realized the extent to which our problems must be faced and solved nationally.

Higher education has never been more central in the affairs of man than it is today; and if Canada is to become a noble and puissant nation, she must do far more than treat her universities with respect and unenthusiastic charity. Many of the Canadian universities were founded before the emergence of a definite political structure. All of them arouse pride and loyalty. They should be the basis for Canadian leadership and a principal means for diffusing Canadian influence. In the enunciation of our goals, we must not turn to society a face that is indistinct and bland, for we hold in our hands the master key of the future.

Scholars

THE WEST once bucketted its way into the East to search for apes and peacocks; perhaps the East will make its way to us in search of our new merchandise—a modern education." It was on this challenging note that Dr. J. Tuzo Wilson ended his contribution to the N.C.C.U.C. discussion on the international opportunities and obligations of Canadian universities. Professor of Geophysics at Toronto, Dr. Wilson was President of the International Union of Geodesy and Geophysics during the International Geophysical Year.

At the moment [said Dr. Wilson] ten of the graduate students and fellows in geophysics at Toronto came from four Asian and two African countries. Of five faculty members one is this term teaching at the University of Alexandria in Egypt and another holds a post-doctorate fellowship in Paris. I am leaving in six weeks to spend January in India.

While we three are away our classes are being taken by a visiting professor from Australia and by the promotion of our most senior graduate students while the researches of the

Educators at the Capital (III): Scientific leadership can help us to gain the understanding of the rest of the world

Who Roam the World



Before leaving for India, Professor Wilson talks with two members of his staff: Gordon West, *left*, bound for France, and Fraser Grant, for Egypt.

other graduate students are being assisted by the visit of two post-doctorate fellows from Japan. At no time will there be fewer faculty members than normally and a feature which I know will appeal to you is that none of these exchanges is costing the University of Toronto anything. Three post doctorate fellowships and some travelling expenses received from the National Research Council and salaries paid by foreign universities enable an exact balance to be struck.

I have encouraged these visits on the one hand so that our faculty will be better educated, will have a broader outlook and will comprehend better the problems faced by foreign students, and on the other because it is obviously so much more efficient to send one teacher to fifty students than to bring fifty students to the teacher.

I would stress the point that if we are to follow our own democratic and egalitarian traditions and are to be successful in our international relations we must not regard our Canadian universities as a fountain towards which all roads lead. We must look on them as a stream sending our nourishment abroad and giving an understanding and insight in so doing. Herein lies a precious expectation for Canadian scholars. We can look forward to much more travel and in the clash with other civilizations and other environments we shall gain invigorating, if often humbling, experiences.

The stops for breath which I intend to make on the way to and from India

this winter will serve to illustrate this. At each stop I will meet some of my own graduates or the professors of some of my present students.

With Japan we have the most cordial relations. Their scientific education is as good as ours and the presence of Japanese students in a mixed class saves much embarrassment. There is not much talk of racial discrimination when one has to fail a foreign student if the class is headed by a Japanese. Although the plane only stops at Tokyo for an hour I know that I can be greeted by old friends for two Japanese graduates of Toronto are teaching geophysics there while another Canadian graduate is a visiting lecturer.

In Hong Kong I intend to stop and see one of my former students in geophysics, an Englishman, who for the past two years has had a fellowship to study Chinese. Professor W. A. C. H. Dobson and the Dean have agreed that I should try to persuade him to return to Toronto to accept a double appointment as professor both in the Department of Far Eastern Studies and in the Department of Physics. The need for men with such training was brought home to me in 1957 when we had a large international conference of geophysicists in Toronto. The speaker at one public address was to be a Russian and as a polite gesture I had the program translated into Russian as well as French and English. When one Soviet colleague saw it he said to me "Who translated this?" I parried by asking "Is it not correct?" "Yes",

he said, "it is correct, but it is very comical".

This was the more embarrassing because the speaker is a very cultivated man who speaks three languages perfectly and whose wife was for ten years a curator at L'Hermitage Art Gallery. I did not like to admit that the young university lecturer from a language department did not know enough science to translate idiomatically the program of a popular lecture and that none of us scientists knew any Russian at all. We must realize that our present culture involves both sciences and humanities.

In India I expect to be able to agree with the scientists but to be exposed to points of view about history very different from those to which I was brought up. Although the Indians give credit to their British conquerors for much good, I have already learned that their opinion of the operations of the East India Company or of the Victorian opium merchants and traders is not high. I suspect that they feel that Hinduism and Buddhism compare favourably with the excesses of Christians, such as those of the sixteenth century Portuguese inquisition or the later Calvinists. If we can arrange to meet I should like to see another Toronto graduate who is in charge of a party from Cambridge on one of the research ships of the International Indian Ocean Expeditions.

On my return journey from India I hope to see the lonely professor at Teheran who is trying to cope with the rapid establishment of a satellite

tracking station, a geophysical observatory and a greatly expanded university physics program. We now have the second of his students with us, a most charming young man who set me back on my heels when we were discussing the change in name of his country from Persia to Iran. "Yes", he said, "it seemed appropriate to abandon the name which properly refers to one province only in favour of Iran which is the same word as Aryan. We are, of course, the original Aryans."

In Israel I expect to discuss efforts to find a North American successor to the Chief Oil Geologist and Commissioner of Petroleum, another Canadian who was unfortunately killed.

In Egypt, a country with so much need for oil and water, I hope to explore what can be done to continue the exchange of staff and students which we have started. Professor F. S. Grant tells me that he is delighted with the ease with which he has fitted into the customs of the country, one of which is to give all lectures to senior science students in the English language.

I believe that these purely personal reflections are a foretaste of what we can all increasingly expect in the next few years. They show how false is the idea that there can be two separate cultures of scientists and humanists. On the contrary I believe that there have been three cultures and that they have been additive, first the arts alone, then the arts and the humanities and now the arts, humanities and sciences, all three together. The arts



Left: Visiting lecturer from Australia, Edward Irving, discusses fossil magnetism with two post-doctoral fellows from Japan: Haruo Domen, of Yamaguchi University, and Akira Kamitsuki, of Kyoto University.

are the skills and control of the individual, the humanities deal with the understanding and control of society and the sciences deal with the understanding and control of nature.

For the first several hundreds of thousands of years of man's development he was a hunter and gatherer and perforce lived alone in small family groups like the Eskimo did until recently. The only skills he acquired, although they were important ones, were those of the individual—speech, use of tools and weapons, and handiwork. This was the period of the arts alone, but they were highly developed as cave drawings and archaeological finds show.

The next stage started ten thousand years ago with the discovery of agriculture and husbandry. Then for the first time men could form villages and city states and needed, and hence developed, the skills of society—the humanities, the great religions, writing, philosophy, accounting, law, armies and government organizations.

Finally, the discovery of power and the partial conquest of nature introduced the third culture, that in which science has combined with the humanities and the arts in a culture in which we seek to maintain a proper control and knowledge of the individual, of society and of nature.

I agree that a culture of science alone is impossible because man cannot control nature without first having an understanding and control of himself and of society, but I also maintain that the introduction of science should improve the humanities and modify them, just as the introduction of the humanities improved the arts. In any case we cannot abandon science and revert to the ancient forms of civilization. The figures for population show why.

In Great Britain, for the many thousands of years when men lived as primitive savages, demographers have estimated that the population never exceeded 5,000 people. The coming of agriculture enabled this to rise a

hundredfold to about 500,000 at the close of the Roman period, at which level it remained, held constant by famine, pestilence and bloodshed until the Renaissance brought new skills, new vegetables and the use of power so that it has now risen another hundredfold to 50,000,000.

The fact that 10,000 men now live in comfort, luxury and safety where but one lived as a primitive savage is the measure of the success of our modern technological society. We cannot go back. It is beside the point to argue the advantages of ancient non-mechanical civilizations, for they could not begin to support today's populations.

In a world all parts of which can communicate together in seconds and all parts of which can be reached by jet aircraft in a day or two, in a world of three billion people, our only hope for peace lies in an international society, a technological one, and in the slow fading of national antipathies.

We in the West are fortunate that for the past five hundred years we have dominated the advance of mankind. As leaders we may regret that not all men have yet welcomed our contributions in ethics and in the Christian religion and that some have eschewed our ideas of freedom and democracy, but we can at least be grateful that the whole world wants the industrial and scientific revolution pioneered by Great Britain and the Atlantic community and the world at least acknowledges our leadership in this. We have to accept the fact

that it is through our leadership in science that our path to understanding with the rest of the world lies. We can hope that that path will lead also to acceptance of our other achievements.

Meanwhile our best route to approach other peoples is by an understanding that science is the part of our way of life which they most wish to copy and by broadening our knowledge to embrace an understanding of their societies and their humanities.

If this presents a task for the humanists to broaden their outlook, so there is also a task for the scientist to do the same. In the recent period of rapid development of science the attention of scientists has been fixed on a competition to advance science and too little thought has been given to its proper teaching. At the Massachusetts Institute of Technology centennial last spring the leading physicists predicted that this expansion and revolution in knowledge could not long continue at so fast a rate. It is a task for universities today to train people to an appreciation of science as well as to a broader humanism, just as it was the task of Greek philosophers to create a humanist society out of more primitive cultures.

The world is now united by communications. It must be the task of universities to give it a common cultural outlook and this can only be done if scholars roam the world, taking their own fragments of knowledge to display in foreign markets in exchange for what they will learn there.

Educators at the Capital (IV): Toronto's Dean of Arts and Science seeks a way to segregate M.A. candidates who want "more of the same"

Real graduate students and the others

TWO STREAMS of students are flowing into our graduate schools, Dean Vincent Bladen told the National Conference of Canadian Universities and Colleges at Ottawa in November. He said the first challenge is to identify the students in each stream, and the second is to find a way to meet their very different needs. Dean Bladen, who heads the Faculty of Arts and Science at University of Toronto, said his observations about the operation of graduate schools had special reference to the humanities and social sciences.

I wonder [said Dean Bladen] whether we have not been over-influenced by the pattern in the United States, and whether we recognize how much that pattern is a response to their failure (I would almost say their abdication) at the undergraduate level.

Surely we must fight to maintain the quality and integrity of our honours undergraduate work. We must continue to take seriously the student at the ages 18 to 21. And we

must model our Graduate School in relation to the Canadian honour system of highly intensive studies in specialized fields.

Now as I look at our Graduate School, it seems to me that it is called on to perform two different functions, both important, but concern with the one may be adversely affecting the other. This shows up at the M.A. level. Here we have students who really want a second Bachelor's Degree. In my day in England this is what they would have done; they would have read a second honour school. They are graduates of a general course, or of an honour course which turned out to be not quite what they wanted, or they are graduates of a smaller university who want to taste the heady wine of the big university. The point is that this is a demand for "more of the same". There are others who have graduated with an honours degree who want to continue in their own field and to proceed to research in that field—to undertake independent work. The

danger is that we pile on them the same sort of course work as on the first type. As someone coarsely put it in the thirties—we simply “pile higher and deeper”.

I would plead for a careful separation of the students for whom “more of the same” is proper and those for whom we should provide something different. These latter are the real graduate students. Let us not spoil the work we do for them by failure to identify their real needs.

May I suggest a few points for consideration—all of which are concerned to liberate these young men earlier for independent work; all of which require that we be readier to show confidence in young men; all of which are intended to bring these men more quickly out of the status of pupil into the status of colleague. ¶We ask too much course work, too much unrelated to their subject of research, because we distrust their undergraduate preparation and because we are thinking of the probability of their being asked to teach these subjects. But surely we want to turn out students who can learn, rather than students who have learnt. ¶Do we not over-emphasize train-

ing in technique to the detriment of the development of imagination and judgment—even of excitement? Are we not concerned too often to screen out the mediocre rather than to develop the excellent?

¶Do we not encourage students to write (or fail to discourage from writing) too big theses on too great subjects? Surely we want to give them a trial run at research under direction. But their big works should be done later by them as independent scholars. I am horrified at the number of really able young men with uncompleted Ph.D. theses. It is not all their fault.

¶Should we not identify these students for whom something different is appropriate and provide for each of them close association from the very beginning with a member of the staff, who would direct their early preparation and later research and thesis writing?

¶Should we not be careful to limit entrance to this program to the really first class?

¶Should we not make sure that these students have financial support that enables them to complete their doctorate in three years? This means

The degrees which the University of Toronto offers to graduate students are: Doctor of Philosophy (Ph.D.) offered in 37 departments, Master of Arts (M.A.) offered in 35 departments, Master of Business Administration (M.B.A.), Master of Laws (LL.M.), Doctor Juris (D.Jur.), Master of Surgery (M.S.), Master of Applied Science (M.A.Sc.) offered in six departments, Master of Architecture (M.Arch.), Master of the Science of Forestry (M.Sc.F.), Master of Science in Agriculture (M.S.A.), Master of Science in Dentistry (M.Sc.D.), Master of Veterinary Science (M.V.Sc.), Doctor of Veterinary Science (D.V.Sc.), Master of Music (Mus.M.), Doctor of Music (Mus.Doc.), Master of Social Work (M.S.W.), Doctor of Social Work (D.S.W.), Master of Library Science (M.L.S.), Master of Education (M.Ed.), Doctor of Education (Ed.D.), Master of Science in Pharmacy (M.Sc.Phm.), and Doctor of Clinical Science (D.Cl.Sc.).

that they must not be diverted to teaching and/or helping with the research of others.

Should we not make sure that the burden of this direction (and stimulation) of graduate students is properly recognized in the university budget? It is not so long ago that graduate work was added on the top of a full undergraduate load. The professor accepted it almost as a privilege to be allowed to do this extra work. The numbers now involved make this impossible (it was never proper). Provision is now made (I speak only for the University I know) for this burden but not (I am quite clear about this) adequate provision.

I have no clear solution for the problem of the two streams with which I began. The beginning is to recognize their existence. Perhaps the M.A. is the degree we must give for satisfactory performance in the first stream. Perhaps those in the second stream should immediately be enrolled in a Ph.D. program. Perhaps we need a new degree for those who having enrolled in the Ph.D. program cannot stand the course; a Ph.M. let us say, a B.Litt., a B.Phil., or what you will.

The alternative is politically impossible, viz., to give a second B.A. to the first stream. Most difficult of all perhaps are the students from other countries. Canadians used to (and still do) go to Oxford and read for a second B.A. Nigerians come to Canada and want to enroll for a Ph.D. If they went to Oxford they would settle for a B.A.

*“An inefficient
degrading way of*



*nsatisfactory, and somewhat
rying to attain a great end”*



DR. R. F. FARQUHARSON, Professor Emeritus of Medicine at Toronto and Chairman of the Medical Research Council, has called on Canadian universities to face up to their responsibility in meeting the country's need for doctors and dentists. It was one of three pressing problems in medical and dental education about which he talked to the N.C.C.U.C. at Ottawa in November.

There was a time, said Dr. Farquharson, when one doctor for every thousand citizens seemed adequate. But many changes in the last few decades have influenced the number required. Improvement in transportation and communications has enabled country practitioners to make visits more easily and quickly, and has allowed more patients to come to the doctor's office. Development of community hospitals has made service easier. The success of public health measures has reduced the incidence of infectious diseases and the introduction of effective antibiotics has ren-

Left: Dr. Farquharson and Dr. John D. Hamilton, Dean of the Faculty of Medicine at the University of Toronto, discuss one of the charts which Dr. Farquharson used in preparing his Ottawa address. Dr. Farquharson was critical the system which forces university medical schools to use as clinical teachers physicians and surgeons who make their living in practice. He saw the need for three or four new medical schools and three additional schools of dentistry in Canada before 1980.

dered treatment of many common infections more effective and simpler. On the other hand, better methods of treatment have made it possible to help patients for whom little could be done formerly. This has led to the development of excellent but time-consuming special techniques. People are demanding much more medical attention than formerly. More doctors are employed in public health work, in industry, in government services, in the large hospitals and in other areas. The number of doctors per unit of population has actually increased in the last ten years till there is now one doctor in Canada for every 879 people. Yet the doctors are busier than ever before.

Dr. Farquharson suggested that it will be necessary to increase the proportion still further in the next twenty years and that this, combined with the rise in population will throw a great burden on our medical schools. He quoted the estimate of Guy Clarkson, Canadian Medical Association economist, that to maintain the one to 879 ratio in 1980, more than 30,000 doctors would be required compared with the 20,500 in practice in 1960. Should the ratio change to one in 800, the total needed would be 34,000.

After reviewing various factors which bear on the situation, including the capacity of our present medical schools, the rate of immigration of physicians from the British Isles and foreign countries and the flow of medical graduates to the United States, Dr. Farquharson estimated

that three or four new medical schools may be required.

Turning to dentistry, he quoted statistics and estimates supplied by Dr. Roy Ellis, Dean of the Faculty at Toronto. Dr. Ellis, he said, saw the need for improving the ratio of one dentist for every 3,018 Canadians to one for every 2,500. To do this in the face of an expanding population, one new dental school accommodating 60 to 75 students a year should be functioning by 1968, another by 1973 and a third by 1978.

"There is," said Dr. Farquharson, "no doubt of the genuine need for an increased production of both dentists and physicians in our country. The universities must face the necessity of expanding existing facilities and the establishments of new schools which are very expensive. In most instances, there would be a time lag of at least ten years between the decision to establish a new school and the graduation of the first class."

"It appears to be true," he added, "that quite a number of good students have been discouraged by the length and expense of the medical course, and by the long inadequate-income period of the postgraduate training required if they wish to proceed to an academic life of teaching and research. This problem should not be insoluble in our social system."

The second problem discussed by Dr. Farquharson was the threat to the autonomy of our universities because of the inadequacy of funds of their own to meet the increasing demands associated with the rapid

changes in medical knowledge and technology. Our situation was worse than that facing the Americans, he said, because Canadian universities have not had the large donations from private sources and big foundations which allowed the great basic development of many U.S. medical schools between the two wars. He described the third problem as the balance between research and teaching in the function of the medical schools and the responsibility of the universities for maintaining a broad outlook which comprehends all aspects of the pursuit of medical learning and education.

Most of our clinical teaching [said Dr. Farquharson] is still being done by men who make their living in practice, and seldom have time for contemplation to say nothing of undertaking intensive investigation. The staffs of departments of the preclinical sciences are far too small to embrace the many extensive fields which must be covered to keep reasonably abreast either in teaching or in research. In spite of the construction of some new buildings, the laboratory space and other facilities are quite inadequate even for present needs.

Nevertheless, with increased aid from government sources and voluntary agencies, a sound foundation in research activity has now been laid, similar to that developed in the United States thirty years ago. Increasing numbers of competent young medical scientists are being trained, who are needed in growing numbers for research and teaching in our

medical schools. The development of adequate support of research will require grants of increasing magnitude for years to come.

Important as such support is, it must be paralleled by increasing directly the funds of the universities themselves. The universities should not be obliged to look to numerous granting bodies for the building up of their teaching departments. It is an inefficient, unsatisfactory and somewhat degrading method of trying to attain a great end.

The universities are directly responsible for the development of all aspects of the pursuit of medical learning and education, which includes that type of imaginative thinking and action which is usually called research as well as the comprehensive understanding of broad fields which is necessary for good teaching. It is the inherent responsibility of universities to provide the buildings and to select, and pay the salaries of a basic group of scholars necessary for this purpose. It is essential for our national development that the necessary funds be granted directly to the universities so that they may spend their energies freely and with vigor and imagination in the study and development of their essential continuing function.

The research granting bodies will still require huge sums for the training of medical scientists, for the support of a large number of full-time research workers who are so attracted to intensive investigation that they must devote many years, perhaps their lives to it; and for the costs of in-

creasingly expensive research operations by members of the staff of universities and hospitals as well as for the provision of much very expensive equipment.

It is the function of all university teachers to engage in hard thinking and to strive for a thorough understanding of their fields. There are of course many ways of studying and searching. But in all of them, from the point of view of education and for raising the quality of professional work, it is the continued searching that matters. It improves the quality of both staff and students and in this respect is more important than the finding of the answers. If the attitude of genuine searching pervades the whole staff, any serious question of the balance between teaching and investigation disappears.

The balance of effort is disturbed, however, when the staff is too small for its teaching load or, in the case of clinicians, when they are too busy in practice. Spending their days and their energy in more routine work, they then have neither time for contemplation nor for active investigation. Unless they are very gifted and have great perseverance they will fail both to teach well and to do useful research work. The obvious solution is to build up a larger staff with more full-time members.

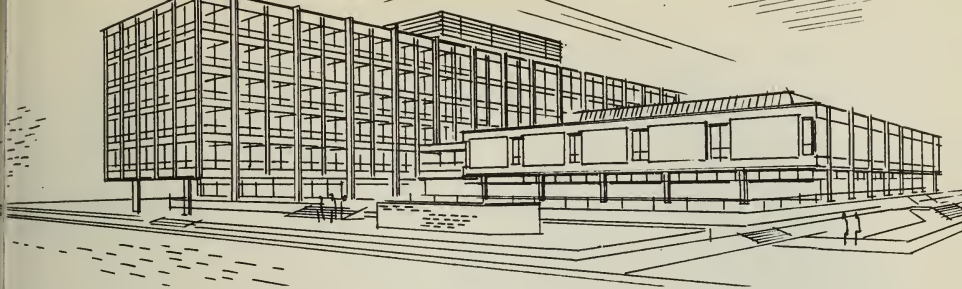
The balance may be disturbed, too, when a line of cleavage appears between those regarded primarily as teachers and those considered to be research workers. This is more apt to occur in clinical departments where

most of the teachers make their living in practice. It is mitigated if the "full-time" investigators are expected to play a role in teaching and if the two groups are interspersed in departmental activities where they learn much from each other.

Of course there are never enough imaginative good workers with genius for great research. Their influence extends into all fields and at all levels. It is from them that great new advances come.

Our universities are always in need of the scholar with a broad philosophical outlook who reads and thinks and ponders and loves to teach even if he may not be drawn to experimental work. Intelligent men with ability to comprehend a broad field of knowledge, to sympathize with the aspirations of young and old, and to enjoy contemplation are valuable and necessary.

In concluding I wish to mention two other aspects of medical education and its organization which I have not had time to discuss. One has to do with the need for increasingly close collaboration between medical schools and their teaching hospitals. The other is concerned with the responsibility shared by university workers and by those who administer the funds of various granting bodies for the improvement of the quality of medical and dental research and for the careful selection for training of those who would spend much of their lives in its pursuit. Both are continuing problems which will be helped by continued active consideration.



The Humanized Stronghold

SIDNEY SMITH HALL, the new Arts building, is a token of a departure from incoherent architectural designing. This distinctive building is not pseudo-Doric, and it has none of the extravagances which are all too commonly derived from the decadent Corinthian. It is not a counterfeit of plain and early or of late and flamboyant Gothic, concealing in appearance by means of laboriously broken and chipped stones a real constitution of forged steel. This building has also escaped the syncretic eclecticism of the Renaissance and it partakes in nothing which belongs to the characterless, feebly decorated, so-called Georgian.

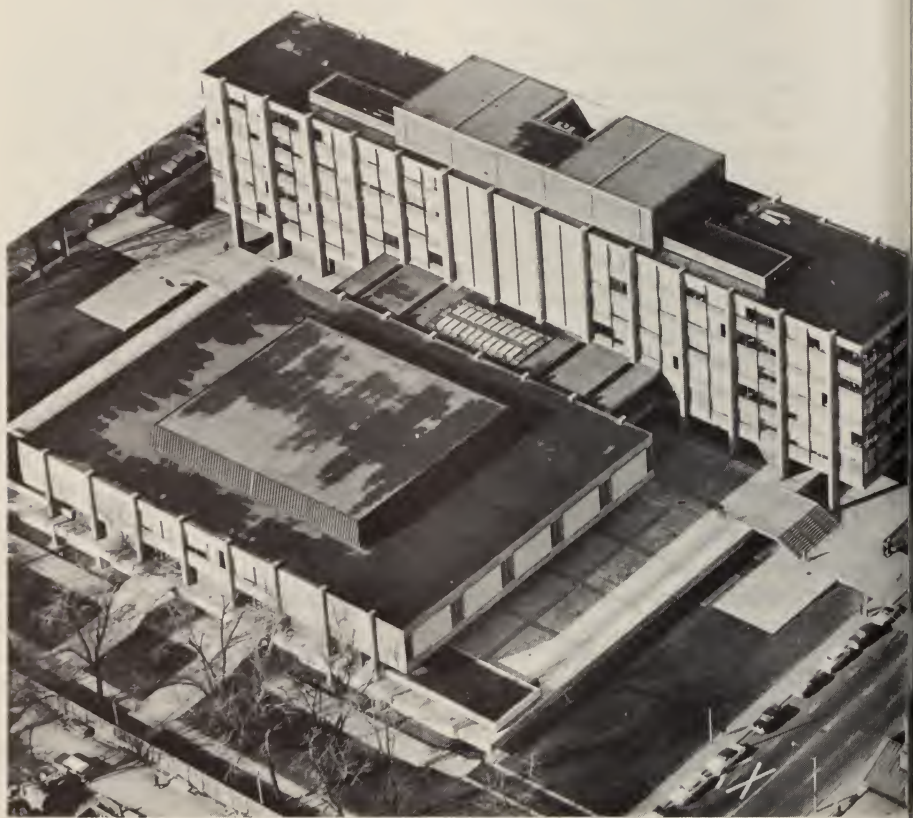
Yet as an architectural example, the building does have much in common with the genuinely Doric and the early Gothic. For, briefly put, this new creation is a true and lively birth of Time, and as a creature of Time it is representative of a universality which belongs to a new age in architectural history.

Its designer has disdained whatever is imitative, counterfeit, excrescent. The building's matter is never alien to its form and its function. Its adornment is the issue of the full adaptation of available materials, and consequent structure to purpose and design.

The architect has allowed his structure to carry only as much as his materials and his purposes warrant. His building is not in semblance or through other association, a hurdy-gurdy, a bon-bon dish, a seashell, a soufflé, a church or a boiler factory, but manifestly a humanized stronghold and urbane habitation, ready practically to serve the high utility of ancient and modern humane

scholarship. The structure embodies its own distinctive principle and rationale. It has no waste space; its top is consistent with its bottom and its front with its rear. It has its own perspectives, dimensions, vistas, ascents and descents, ways and byways, and withal it manifests the radiance of a first vision. These things are enough to stimulate any imagination which has not been enfeebled by the illusions of nostalgia or oppressed by the images or after-images of tradition. This tangible structure will subserve well whatever is sound, elevated, and intelligible among the intangibles of learning.

FULTON ANDERSON,
*Professor and Head,
Department of Philosophy*



*Sidney Smith Hall . . . "has its own
perspectives, vistas, ways
and byways . . ."*





This photograph of Sidney Smith Hall was taken from the gabled room at 298 Huron street where Sidney Smith lived in 1925. He was then a lecturer at Osgoode Hall. The following year he married Harriet Rand and, in 1929, became Dean of the Faculty of Law at Dalhousie University. President of the University of Manitoba from 1934 to 1944, Dr. Smith returned to Toronto as Principal of University College, becoming President of the University in 1945. In 1957 he was appointed Secretary of State for External Affairs. Dr. Smith died in 1959.

*How the view
from the window
of Sidney Smith's
Huron street room
has changed...*



Sidney Smith was teaching law at Osgoode Hall when he sat for this portrait about 1925. Born in Port Hood, N.S., he had studied at the University of King's College and Dalhousie University. He was called to the bar of Nova Scotia in 1921.



From a window in the dean's suite at Sidney Smith Hall, Dean Vincent Bladen looks across Huron Street to the row of houses which will be demolished to make way for one of the new residential colleges. Under the peaked roof at extreme left may be seen the window of Sidney Smith's old room.

THE PLAQUE IS PLACED IN SIDNEY SMITH HALL

After its December meeting, the Senate of the University adjourned to the foyer of Sidney Smith Hall for the ceremony pictured at *right*. This was the placing of the plaque recording the University's gratitude to M. Wallace McCutcheon and Neil J. McKinnon for their leadership of the National Fund. The plaque, standing on an easel, had been unveiled 18 months earlier by Lt.-Col. W. E. Phillips, the Chairman of the Board of Governors. In December, Robert F. Chisholm declared it formally installed in a permanent home.

Below: Mr. Chisholm, Dr. Claude Bissell, and Mr. McCutcheon join in the general laughter as Mr. McKinnon explains why he was almost late for the ceremony.





THE VARSITY FUND IS THE SUCCESSOR TO NATIONAL FUND

Robert F. Chisholm was invited to install the plaque honouring the co-Chairmen of the National Fund for two good reasons: he had been one of the key officers in the National Fund which soared over the top and raised more than \$15 million for new buildings, and he is now the General Chairman of the National Fund's lineal descendant—the Varsity Fund.

In the Varsity Fund, 15 University of Toronto Alumni groups have united the annual-giving campaigns they formerly conducted separately. Early results have been gratifying. "The inspiration and momentum Mr. McCutcheon and Mr. McKinnon provided in the capital fund is carrying forward," Mr. Chisholm said at the ceremony in Sidney Smith Hall; "the Alumni are responding better than ever before."

Dr. Bissell, who acted as chairman at the placing of the plaque ceremony, spoke of Mr. Chisholm's important new role in University affairs.

The President reports on the Fund on page 14 of this issue, and the Vice-President (Administration) on page 66.



A reception was held in the foyer of Sidney Smith Hall after the plaque honouring the co-Chairmen of the National Fund had been declared well and truly placed on the north wall. ("This foyer," said Dr. Bissell, "will become more and more strategic—a cultural corridor between the old University and the collegiate city we hope will grow.") Guests included members of the Senate, who had created a precedent by holding their December meeting in one of the lecture rooms in the new building, and several directors of the Varsity Fund.

Above: National Fund co-Chairman McCutcheon is seen with Dr. Gilbert de B. Robinson, Professor of Mathematics. Their conversation piece is the photograph in one of the leather-bound folders presented to the two guests of honour. It was taken when the plaque was unveiled in the Senate Chamber, Simcoe Hall, at the close of the National Fund campaign in 1960.



Among those at the reception was Professor K. S. Bernhardt, *left*, Director of the Institute of Child Study. At *right* are Professor Frank Wetmore, Associate Dean of the Faculty of Arts and Science, and J. K. Bradford, Director of Placement Service.



Left: Mrs. Neil McKinnon is seen with Dr. R. M. Janes, Professor Emeritus of Surgery and a director of the Varsity Fund. At *right* is D. W. McGibbon, also a director of the Varsity Fund.



Dean Vincent Bladen, of the Faculty of Arts and Science, with Frank R. Stone, Vice-President (Administration), at the reception. For an address by Dean Bladen see page 44. Mr. Stone's Financial Report begins on the facing page.



Edward N. Vanstone, *left*, and M. K. Kenny, *centre*, were among Varsity Fund directors present. *Right*: the Rev. J. M. Kelly, President of St. Michael's College.

UNIVERSITY OF TORONTO

FINANCIAL REPORT, 1960-61

FOLLOWING THE PRACTICE of the past two years, the financial statements of the University of Toronto for the year ended June 30, 1961, are reproduced in this "Annual Reports" issue of Varsity Graduate. This brief financial story of the year 1960-61 is addressed to the many alumni and other friends of the University who are taking an active interest in its affairs.

Enrolment

In 1956, when the planning of the present expansion period began, enrolment in faculties and departments of the University other than the Ontario College of Education was approximately 11,700 students and it was expected that by 1968 this number would have doubled to, say, 23,400. The larger classes already moving through the primary and secondary schools could be counted, but there was still some uncertainty as to what proportion of these young people might continue their education to the university level. The Report of the Advisory Planning Committee, issued in September 1957—by

which time the student population had already risen to 12,316—including projections for the academic year ending in 1961, 1965 and 1969. Actual registration figures for the year 1960–61 therefore provide our first opportunity to check the projections on which our expansion programme is based.

	Actual 1957	Projected 1961	Actual 1961	Four-year increase or (decrease)	
				Projected	Actual
Full-Time Students					
Arts and Science—including Federated Colleges	3,648	4,218	5,160	570	1,512
Graduate Studies (including part-time)	1,320	1,550	1,701	230	381
Medicine (including Rehabilitation Medicine)	1,112	1,100	1,052	(12)	(60)
Sundry smaller faculties and schools	<u>2,089</u>	<u>2,816</u>	<u>2,486</u>	<u>727</u>	<u>397</u>
	8,169	9,684	10,399	1,515	2,230
Applied Science and Engineering	<u>2,078</u>	<u>2,800</u>	<u>1,692</u>	<u>722</u>	<u>(386)</u>
Total—Full-Time	10,247	12,484	12,091	2,237	1,844
Part-Time Students					
—including Arts and Science and Business Certificate Courses through Extension Division, and Medical Post Graduate Courses	<u>2,069</u>	<u>2,851</u>	<u>2,731</u>	<u>782</u>	<u>662</u>
Total University (not including Ontario College of Education)	12,316	15,335	14,822	3,019	<u>2,506</u>

The main force of the expansion has been felt in University College and the three Federated Arts Colleges, Victoria, St. Michael's and Trinity, which together accommodate all our "full-time" students in Arts and Science; here the growth has been almost three times as great as had been expected. Enrolment restrictions have been imposed on the Faculty as a whole and on some of its courses—as they have been for several years in certain of the professional faculties.

Graduate work, which is most demanding in its research space requirements, has also grown at a faster pace than had been predicted. Medicine, which includes Physical and Occupational Therapy and other courses in Rehabilitation Medicine, fluctuates up and down within narrow limits but it is expected to remain at about 1,100.

In Applied Science and Engineering the combined factors of a general swing, throughout North American institutions, away from applied science

to pure science—i.e. to the Faculty of Arts and Science—and the opening of a number of new engineering schools in Ontario since 1957, have resulted in a substantial drop rather than the expected increase in our enrolment and a divergence of 1,108 students between the projected and actual totals for the year 1960–61 in this Faculty. This is the principal “reason why” our total of 14,822 students was 513 below the expected level at the end of the first four years.

Including O.C.E., 1960–61 enrolment was 15,624.

The real measure of the added load on our space and facilities is the number of full-time students and for this reason part-time students have been separated in the statistics (except in the case of the School of Graduate Studies where the forecasts were made only in total). In courses and faculties other than Engineering, the increase of 2,230 in full-time enrolment has been almost 50% greater than the expected gain of 1,515. The failure of Engineering to expand as rapidly as was expected has, however, eased our problem of space, permitting the use of Engineering areas by Science departments of the Faculty of Arts and Science.

Physical Expansion

In 1960–61, \$12,484,870 was invested in the construction and initial equipping of new or rehabilitated buildings and the acquisition of new land, an amount substantially greater than that so invested in any other recent year and probably the largest annual sum in the history of the University. The effect on the appearance of the campus as a whole, and the West Campus in particular, has been clearly evident. The Women's Athletic Building, enlarged Central Power Plant, Superintendent's Building and other earlier buildings completed on the West Campus, were not readily visible from the principal areas of activity on the old campus, but Sidney Smith Hall, essentially complete by the end of the year, now dominates St. George Street, and a start has been made on a large new Chemistry Building, directly to its south, further opening up the whole West Campus area. Many of the older houses west of St. George Street have been demolished in preparation for further construction during the coming year.

In the fall of 1960, Ferguson House, the final quarter of Whitney Hall Residence for University College women, was completed—barely in time for the opening of term. Partial use of the Galbraith Building, new headquarters of Applied Science and Engineering, was possible during the 1960 fall term and it was fully occupied in January 1961. The added capacity of the enlarged Central Power Plant was utilized during the winter months.

In the north-easterly portion of the main campus, adjoining the Royal Ontario Museum, the imposing Edward Johnson Building for the Faculty of Music made its appearance—completion being expected in the summer of

1962. Nearby, a major addition to Flavelle House to accommodate the library and classrooms of the Faculty of Law also approached completion and it has since been occupied by the Faculty. In the same area, Falconer Hall served during 1960-61 as the first home of York University, pending completion of its new building on the Glendon Hall grounds at Bayview and Lawrence Avenues.

At the south end of the campus the building at the corner of College and Huron Streets, formerly used by Dentistry, proved to be better suited for use by the School of Architecture than by a laboratory-type faculty such as Pharmacy which requires extensive plumbing and other services. Plans were changed accordingly, alterations for its changed use were started in 1961 and it is to be occupied by Christmas. Detailed planning for a new Pharmacy Building at the south-east corner of Russell and Huron Streets was also undertaken and construction is scheduled to start early in 1962.

A decision of particular importance was the one to complete the quadrangle of University College by construction of a College library. Plans for this wing are now well advanced and they include a large basement common-room-lunchroom for the convenience of non-resident members of University College. The first sod should be turned early in 1962.

Aside from the completion of Whitney Hall, the programme of residence expansion has been delayed to permit careful study of the proposal to build a series of academically weighted residential colleges in place of the more usual dormitory type of living accommodation originally envisaged. As explained more fully in the President's Report, this new concept has recently been given full approval and architectural planning for the first residential college for men is now going ahead—with some hope that construction may start in the late summer of 1962.

Public announcement has already been made of the magnificent offer of the Massey Foundation to construct and equip Massey College—a residential college for men enrolled in our School of Graduate Studies, which will also provide important facilities for use by the Graduate School itself. Construction is expected to start before Christmas 1961 on the site at the north-west corner of Hoskin Avenue and Devonshire Place, which is being provided by the University. The presence in the academic community of this new College, seeking to attract graduate students of outstanding ability, will be of tremendous value to the University of Toronto.

With the generous support of the Wellcome Foundation, of Great Britain, a four-storey medical research laboratory and classroom addition to the Best Institute was undertaken during the year and, at the time of writing, it is almost complete.

Preliminary planning was completed and the preparation of working drawings and specifications was undertaken for two other major buildings on the

West Campus—Physics, which will include a fourteen-storey tower and will be located on Huron Street south of the Chemistry Building; and Zoology, which will be a six-storey structure on the south side of Harbord St. between Huron and St. George, directly north of Sidney Smith Hall. Plans for these buildings will be finished early in 1962 but a start on construction will depend on the availability of adequate capital funds. An indication of the size and complexity of our new Science buildings is given by the quantity of laboratory bench space to be provided. A special design study has permitted more intensive use of each bench position than in any earlier building, but it has still been necessary to provide $2\frac{1}{2}$ miles of lab. benches for the Chemistry building and more than 3 miles for Zoology!

A new development which was gaining momentum at the year's end, and of which more will be heard in the future, is the proposed establishment of an "International Centre" to serve as a campus headquarters for overseas students. Rotary Clubs in the Toronto area are raising a fund of \$250,000 with which to construct and equip the building and a site adjoining the West Campus has been provided by the University. There is very real need for a headquarters of this kind, to help students from foreign lands to establish themselves on the campus and in the Toronto community. It would be most unfortunate if these important young people were to feel that they had been badly neglected, and return to their native lands with less favourable impressions of this University, and perhaps of this country, than we would like them to have. Good work is now being done by F.R.O.S. (Friendly Relations with Overseas Students) within its very limited means and it will be actively involved in the operation of the new centre.

Capital Financing

The University's Balance Sheet reports a total of \$8,295,953 of capital funds on hand at June 30th, 1961—including some amounts provided for specific uses and \$4,168,883 of National Fund proceeds. A Provincial Capital Grant of \$7,100,000 for the year 1961–62, consisting of \$1,075,000 for our Debenture Sinking Fund instalments and \$6,025,000 for new construction, had also been announced but the new construction portion had not yet been received. Further instalment payments on Canada Council grants and additional National Fund collections are expected during the year 1961–62.

Capital funds now on hand or expected to become available for use in 1961–62 are adequate to meet the expenditures of approximately \$13,000,000 scheduled for the year. It will, however, be necessary to delay the start of construction on the two major Science projects—Physics and Zoology—until the amount of our Provincial Capital Grant for 1962–63 is known; funds otherwise available would be sufficient for 1962–63 requirements but might not be adequate to ensure completion of all the projects under way.



The 1961 Freshman Class hears the President's Address

The National Fund for the University of Toronto

Since May 1960, when the total of subscriptions to The National Fund reached \$15,300,000, contributions have continued to come in. Some contributors have died since that time and some businesses have failed: as a result some pledges have been cancelled but the fund has continued to increase slowly. On June 30th, 1961 the total stood at \$15,337,494 of which \$7,886,382 had been collected and the remainder was still outstanding. \$2,908,426 was collected during the year 1960-61.

The first of ten annual grants of \$240,000 each from the Municipality of Metropolitan Toronto, to provide a new building for the School of Business and the School of Social Work, was also received during the year.

The Varsity Fund

An encouraging new development of 1961 was the establishment of the "Varsity Fund", pooling together a number of separate alumni appeals for annual giving. Victoria University gave up its annual appeal for the Living Endowment Fund to join in the Varsity Fund and St. Michael's University, which had not previously had a fund for annual giving, also elected to take part. The strong alumni interest and financial support which contributed so greatly to the success of The National Fund has again been evident, and even in the first year of its existence, the Varsity Fund has shown promising results.

All contributions received from Victoria and St. Michael's Alumni will be passed on to those Universities and support will be given to the various Faculty Alumni Associations which have joined in the common appeal. It is hoped that from a portion of the Varsity Fund it may be possible, from year to year, under the President's guidance, to undertake special and important University projects which might not otherwise be possible within our tightly budgeted financial programme.

In these days of heavy taxation it is not easy to accumulate sufficient endowment funds to provide any major annual income for general operations. However, each \$50,000 of annual income from the Varsity Fund will have essentially the same effect as the provision of a capital sum of, say, \$1,000,000. Many institutions throughout Canada and the United States receive strong support from their alumni through this form of annual giving, and it now appears hopeful that the University of Toronto, which has not seriously developed this source of income in the past, may soon be in a similar position.

Student Aid

The Registrar of the University, Mr. Robin Ross, has issued a report for the 1960-61 academic year, prepared by his Department of Student Financial Aid, which discloses that 3,636 students (31% of our full-time enrolment) received 5,444 awards totalling \$1,799,890, in the following form:

		Average Award
1,325 Scholarships, fellowships and prizes	\$ 602,484	\$454
2,936 Bursaries	758,554	258
1,183 Loans	438,852	370
<u>*5,444</u> Awards	<u>*\$1,799,890</u>	<u>\$330</u>

The sources of the above awards were:

		Average Award
2,651 Government Awards—Federal and Provincial	\$ 897,625	\$338
1,368 Faculty or College awards	418,965	306
931 University awards	203,417	218
* 494 Outside groups	* 279,883	566
<u>*5,444</u> Awards	<u>*\$1,799,890</u>	<u>\$330</u>

*(The number and value of awards is actually higher than our records show: many organizations assist students with direct financial aid and our records are, as yet, incomplete in this area.)

3,170 undergraduate students received 4,941 of these awards totalling \$1,416,355, an average of \$286 per award or \$446 per student. The remaining \$383,535 went to 466 graduate students in the form of 503 awards, averaging \$762, and the average aid per student was \$823.

The total aid from sources within the University amounted to \$622,382, or 35% of all assistance given. The remaining 65% was not within the University's power of award, although it does collaborate in the administration of Dominion-Provincial scholarships, bursaries and loans.

The following table shows that bursaries accounted for approximately one half of the total student aid in most undergraduate years. In first undergraduate year, scholarships provided 37% of the assistance, while only 11.5% of the help was in the form of repayable loans; in later years scholarships produced less than 20% of the required assistance—loan funds a much larger proportion.

Year	Scholarships			Bursaries			Loans		
	No.	Value	% of Value	No.	Value	% of Value	No.	Value	% of Value
I	548	\$212,586	37.0%	897	\$287,641	51.5%	157	\$ 62,250	11.5%
II	198	50,219	19.2	578	135,082	51.5	214	76,745	29.3
III	214	44,363	15.7	656	145,587	50.6	272	97,667	33.7
IV	183	43,929	19.0	462	93,978	40.7	258	92,980	40.3
V	21	4,875	10.7	82	15,028	33.7	74	24,525	55.6
VI	6	2,470	8.5	76	13,705	47.2	45	12,725	44.3
Total	1170	\$358,442	25.5%	2751	\$691,021	48.8%	1020	\$366,892	25.7%

Awards to undergraduate students were distributed between the Faculties as follows:

Faculty	Awards		Average Value per Student	% of Students Aided
	No. of Students	Value		
Arts and Science	1,506	\$ 698,774	\$463	29%
Applied Science and Engineering	749	326,710	302	44
Architecture	85	36,960	434	43
Dentistry	170	69,304	408	34
Forestry	25	10,393	415	25
Household Science	1	300	300	4
Law	43	19,065	443	33
Medicine	322	132,693	413	37
Rehabilitation Medicine	16	5,300	331	8
Music	81	35,778	441	62
Nursing	51	30,125	571	28
Pharmacy	76	30,753	404	20
Physical & Health Education	55	20,150	366	31
	3,170	\$1,416,355	\$446	33.6%

Financial Statements

The statement of Income and Expense for the year ended June 30th, 1961 appears as Statement 2 at the end of this report.

Income

Income from student fees provided 21.5% of our total revenue—slightly less than the 21.8% a year ago. Academic fees were increased by approximately 10% for the second successive year and there was also an increase in enrolment, but the distribution of the extra students between faculties and colleges was such that the revenue of the University itself was adversely affected. The major increase in enrolment was in the Faculty of Arts and Science, where many of the students are registered in the three Federated Arts Colleges. The University receives the full fees of students registered in University College, but by agreement with the Federated Colleges, it receives only 64% of the fees of their Commerce and Finance students, and for all their other Arts and Science students the University receives only about 10% of the academic fee—enough to cover examination, lab supply, library and degree fees. Consequently we realized only a fraction of the additional revenue from the large increase in Arts and Science enrolment.

In Engineering, the fee is larger and it accrues entirely to the University—but in 1961 the drop in numbers was enough to wipe out almost all of the benefit from an increased rate.

Rental revenues from West Campus properties and interest on the unspent balance of our “West Campus” debenture proceeds will continue to produce some revenue for us until the whole new area is paid for and put into use for University purposes, but as our utilization is increased the amount of revenue derived from this source will continue to shrink. The total of \$166,070 earned in 1961 was \$122,475 less than in the preceding year. Other interest and rentals provided \$161,211 and together these two sources produced 1.4% of our total income.

The amount of revenue received in the form of a Federal University grant—\$3,097,883—was down approximately \$69,000 from 1960 despite the larger enrolment; the reason is that in Ontario and in most of the other provinces the average grant *per student* has decreased in recent years and until the rate of grant is increased it is likely to continue its downward trend. The amount of money provided by the Federal Government is \$1.50 per capita of the total population of each province, and the amount of grant *per student* in each province is dependent on the number of eligible full-time students in its universities. (Students attending only “part-time” and those enrolled in “diploma” or “certificate” courses at the undergraduate level are not eligible.) When the number of students continuing their education to the university level increases at a faster rate than the total population growth—and therefore, than the total amount of the grant—the effect is to reduce the average amount of the grant per student. In 1961 the Federal Grant provided 13.5% of our income.

Our operating grant from the Province of Ontario, including certain statutory



"Sidney Smith Hall . . . now dominates St. George street and a start has been made on a large new Chemistry Building, directly to the south, further opening up the whole West Campus area."

grants of long standing, was \$9,507,000, of which \$250,000 was specifically designated for assistance to York University and \$9,257,000 was available for our own operating purposes. This latter amount represented an increase of \$1,850,000 from the previous year and it accounted for 40.3% of our total revenue.

Assisted and sponsored research continued to increase and \$3,387,466 was spent from available research "income" for this purpose during the year—this being \$547,390 greater than in 1959–60. As shown in Statement 2, this represented 14.8% of total income or 15.2% of total expense.

The remaining 8.5% of income came from other sources, each of which is relatively small.

Expenses

More than 85% of academic expense consists of salaries, wages and related pension costs and, as we are able to add new members to the teaching staff to meet the requirements of increased enrolment, such costs will continue to rise year by year. Academic expenses of \$13,059,482 accounted for 58.6% of our total operating outlays. This represented an increase of \$860,983 but the total was actually lower than had been expected, partly because we were unable to obtain some of the additional members of staff we had hoped to acquire during the year.

In addition to the problems of increased registration, the offices of the Registrar and the Chief Accountant encountered considerable work in handling a larger amount of Provincial and other student aid; and, with the necessary introduction of limited enrolment in a number of courses and faculties, the work of enrolment selection became more time consuming and more costly. Administrative expenses nevertheless remained at only 2.7% of total operating outlays.

The completion of new buildings will inevitably swell the total cost of operating and maintaining physical plant—by about 2½% of the cost of new structures completed. In the year just ended an increase of \$184,450 raised this item of expense to \$2,375,417—10.6% of our total operating cost.

The Information Office, Graduate Records, Development Office, Placement Office and Alumni Affairs which together account for 1.4% of operating expenses spent \$79,402 more than in 1961 but some of this was recovered for services rendered to other departments or organizations and the net increase in the cost of these activities was \$56,978. The largest single factor involved was a reallocation of National Fund collection costs.

The Royal Ontario Museum was operated at a net cost of \$934,717 for the year, or 4.2% of total expenses. This represented an increase of \$59,726 from 1960.

There is virtually no limit to the amounts which could be used for additions to the Museum's collections and the modernization and improvement of its galleries; within the funds available—including generous support from a few

foundations, corporations and individual benefactors—some important new acquisitions have been made, some exciting new galleries have been completed and other changes are in progress.

Other smaller items of expense made up the remaining 7.3% of the total.

In the University's operating budget for the year 1960-61, established some months in advance, expenditure authorizations were limited to the estimated total of income available. Actual results for the year have been more favourable than originally budgeted, by \$670,591, or 3% of the projected expenses. In part this was brought about by greater income than was expected, and there has also been a saving on expense appropriations, the largest individual factor being our inability to effect a number of the intended staff additions.

It is the University's custom *not* to include an advance provision in its regular budget for periodic major maintenance costs, but rather to provide for these in arrears out of such savings as may be made from year to year. Actual expenditures on modernization of older buildings and facilities and other renovation projects of this kind in 1961 totalled \$345,857 and additional work was in progress at the year's end. A further appropriation of \$330,000 from the 1961 year's savings has been made for this purpose, leaving \$340,591 of net income for the year unallocated. This, together with a small balance brought forward from 1960, provides a total of \$343,766 to be carried forward to offset, in part, a budgeted deficit of \$643,529 in the year 1961-62. We are therefore faced with the necessity of effecting savings in 1961-62 of \$300,000 or more to cover the remainder of the deficit and, if possible, some further amount as a provision for "major maintenance".

Gifts and Bequests

Once again, we have received many thoughtful and generous gifts and benefactions, some of truly magnificent proportions. Several of these gifts have been anonymous. In one such case a sum of \$367,188 was unrestricted as to its use and it has been added to the University General Endowment Fund, as shown on Statement 4. In another such instance the local press discovered and disclosed the name of Mr. Stuart B. Playfair as the "anonymous" donor of a fund of \$1,000,000 for research in the Faculty of Medicine.

A few reports of bequests soon to be received and an increasing number of enquiries by alumni and other friends, concerning gifts and bequests, confirm that more and more persons are conscious of the needs of the University and are "doing something about it". The Secretary of the Board of Governors, or the Registrar's Department of Student Financial Aid in Simcoe Hall, will be very glad to offer their assistance to persons seeking information as to the most helpful and effective wording for such benefactions!

FRANK R. STONE, *Vice-President (Administration)*

Current Operating Income 1960-61

MISCELLANEOUS INCOME 0.7%

OPERATING GIFTS AND GRANTS 1.2%

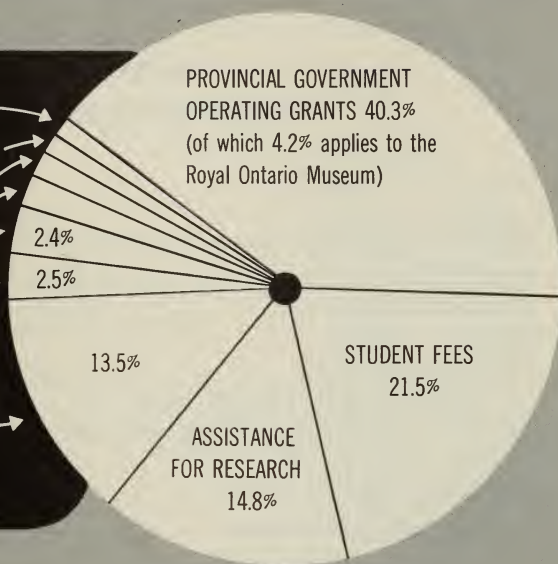
INTEREST AND RENTALS 1.4%

ENDOWMENT INCOME 1.7%

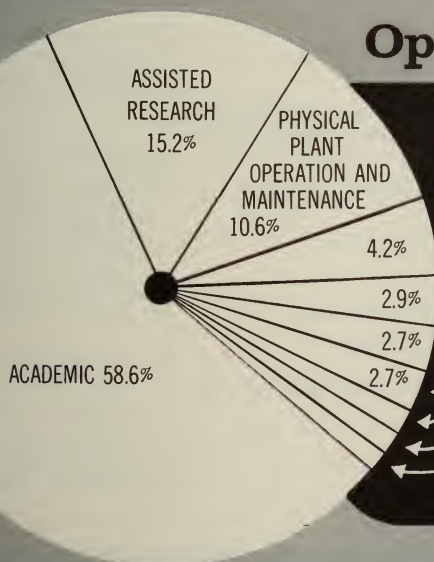
REVENUE FROM SERVICES TO
OUTSIDE ORGANIZATIONS

RESIDENCES AND OTHER
ANCILLARY DEPARTMENTS

FEDERAL GOVERNMENT
OPERATING GRANTS



Current Operating Expenses



ROYAL ONTARIO MUSEUM

DEBENTURE CHARGES

RESIDENCES AND OTHER
ANCILLARY DEPARTMENTS

GENERAL ADMINISTRATION

INFORMATION, PUBLICATIONS,
ALUMNI AFFAIRS, ETC. 1.4%

MISCELLANEOUS 1.1%

STUDENT ASSISTANCE 0.6%

BALANCE SHEET

(with comparative

ASSETS

I Current Operating Funds

	June 30	
	1961	1960
Cash	\$ 467,138	\$ 715,262
Due from capital funds and trust and endowment funds (per contra)	176,495	270,239
Investments—see note 2 (market value \$1,550,557 in 1961 and \$751,377 in 1960)	1,553,377	750,152
	<u>\$ 2,197,010</u>	<u>\$ 1,735,653</u>
Accounts receivable:		
Fees and residence dues	\$ 7,525	\$ 4,901
Due from subsidiary organizations	22,609	32,428
Other accounts receivable and recoverable expenditures	405,419	424,002
	<u>\$ 435,553</u>	<u>\$ 461,331</u>
Stores and supplies	\$ 192,834	\$ 172,842
Prepaid and deferred expenses	\$ 102,058	\$ 131,919
	<u>\$ 2,927,455</u>	<u>\$ 2,501,745</u>

II Capital Funds

Cash	\$ 147,027	\$ 147,994
Due from trust funds (per contra)		449,708
	<u>\$ 147,027</u>	<u>\$ 597,702</u>
Special funds on deposit for capital purposes	\$ 2,263,870	\$ 2,700,093
Investments held for building programme purposes—see note 2 (market value \$6,361,597 in 1961 and \$8,560,319 in 1960)	\$ 6,357,021	\$ 8,543,468
Site lands, buildings and properties—at book values	\$49,542,091	\$42,451,270
West Campus properties—at cost	9,666,971	7,217,591
Construction in progress—at cost	8,021,667	5,076,998
Leased properties—at book values	595,359	595,359
	<u>\$67,826,088</u>	<u>\$55,341,218</u>
Discount on debentures—less amount written off	\$ 1,033,485	\$ 1,161,164
Cash and investments held for sinking funds:		
Cash	\$ 25,592	\$ 8,051
Investments—see note 2 (market value \$7,071,767 in 1961 and \$5,627,882 in 1960)	7,268,697	5,924,721
	<u>\$ 7,294,289</u>	<u>\$ 5,932,772</u>
	<u>\$84,921,780</u>	<u>\$74,276,417</u>

JUNE 30, 1961**figures at June 30, 1960)****LIABILITIES****I Current Operating Funds**

	June 30	
	1961	1960
Accounts payable and accrued charges	\$ 942,497	\$ 832,385
Due to subsidiary organizations	268,735	291,761
	<u>\$ 1,211,232</u>	<u>\$ 1,124,146</u>
Unearned income and fees paid in advance	\$ 378,966	\$ 245,137
Appropriation for major maintenance and renovations	800,630	809,772
Operating departments' reserves	88,924	108,888
Unexpended appropriations—see note 5	88,646	148,997
Special Provincial Government grant for the Royal Ontario Museum carried forward	15,291	61,630
Net income carried forward—statement 2	343,766	3,175
	<u>\$ 1,716,223</u>	<u>\$ 1,377,599</u>
	<u>\$ 2,927,455</u>	<u>\$ 2,501,745</u>

II Capital Funds

Due to current funds (per contra)	\$ 35,661	\$ 125,493
Construction accounts payable and holdbacks	1,552,030	857,891
Mortgages payable	6,250	12,050
3½% debentures due April 15, 1969	11,500,000	11,500,000
3% debentures due August 15, 1970	7,500,000	7,500,000
Total liabilities on capital account	<u>\$20,593,941</u>	<u>\$19,995,434</u>
Trust funds to be expended on building programme—statement 6	8,295,953	8,824,286
General endowment in capital assets—statement 6	56,031,886	45,456,697

<u>\$84,921,780</u>	<u>\$74,276,417</u>
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(Statement 1 continued on next two pages)

BALANCE SHEET

(with comparative

ASSETS

III Trust and Endowment Funds

	June 30	
	1961	1960
Trust fund assets:		
Cash	\$ 686,973	\$ 446,350
Student loans receivable—see note 5	190,041	
Pooled investments held for trust liabilities—see note 2 (market value \$14,476,907 in 1961 and \$14,027,943 in 1960)	15,704,181	15,459,317
Investments held for specific trust liabilities—see note 2	9,548,165	8,260,108
	<u>\$26,129,360</u>	<u>\$24,165,775</u>
General endowment assets:		
Cash	\$ 47,106	\$ 4,900
Investments held for general endowment—see note 2 (market value \$1,459,019 in 1961 and \$1,057,332 in 1960)	1,540,227	1,178,913
Loans to subsidiary organizations	678,000	704,333
	<u>\$2,265,333</u>	<u>\$ 1,888,146</u>
Assets held in safekeeping for subsidiary organizations and others:		
Cash	\$ 35,194	\$ 890
Investments	8,262,920	7,561,707
	<u>\$ 8,298,114</u>	<u>\$ 7,562,597</u>
	<u>\$36,692,807</u>	<u>\$33,616,518</u>

JUNE 30, 1961

figures at June 30, 1960)

LIABILITIES**III Trust and Endowment Funds**

	June 30	
	1961	1960
Trust fund liabilities:		
Endowed faculty and departmental funds for specific operating purposes (including funds acting as endowments)—statement 4	\$ 8,063,912	\$ 8,064,940
Endowed funds for student awards, lectureships, research, etc.—statement 4	11,273,708	9,744,162
	<u>\$19,337,620</u>	<u>\$17,809,102</u>
Expendable funds including income on endowed funds available for student awards, lectureships, research, pension funds, etc.—statement 4	6,650,906	5,762,219
	<u>\$25,988,526</u>	<u>\$23,571,321</u>
Due to current and capital funds (per contra)	140,834	594,454
	<u>\$26,129,360</u>	<u>\$24,165,775</u>
General endowment liabilities:		
General endowment—statement 4	<u>\$ 2,265,333</u>	<u>\$ 1,888,146</u>
Liability for assets held in safekeeping (per contra)	\$ 8,298,114	\$ 7,562,597
	<u>\$36,692,807</u>	<u>\$33,616,518</u>

AUDITORS' REPORT

To the Governors of the

UNIVERSITY OF TORONTO:

We have examined the balance sheet of the University of Toronto as at June 30, 1961 and the statement of current operating income and expense and income carried forward, summary of capital funds and summary of trust and endowment funds for the year ended on that date. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In note 2 to the financial statements reference is made to the basis of establishing the carrying value of bonds and debentures acquired as a result of reinvestment of the proceeds from sale of securities of approximately equivalent investment quality. While this practice is not in common use and therefore cannot be said to be a generally accepted accounting practice, we consider it appropriate in the circumstances.

With this explanation we report that in our opinion the accompanying balance sheet, statement of current operating income and expense and income carried forward, summary of capital funds and summary of trust and endowment funds, read in conjunction with the notes thereto, present fairly the financial position of the University as at June 30, 1961 and the results of its operations for the year ended on that date.

CLARKSON, GORDON & CO.

Chartered Accountants.

Toronto, Canada,
November 14, 1961.

NOTES

UNIVERSITY OF TORONTO: Notes to Financial Statements, years ended June 30, 1961 and 1960:

1. THE FINANCIAL STATEMENTS do not include the income or expense of the following subsidiary organizations, nor their assets and liabilities (except to the extent that the buildings used by certain of these organizations are included in the capital funds section of the balance sheet and securities owned by them are held for safekeeping): Connaught Medical Research Laboratories, Hart House, Ontario College of Education, Royal Conservatory of Music of Toronto, Scientific Development Committee (including the Insulin Committee), Students' Administrative Council, University of Toronto Athletic Association, University of Toronto Press, University of Toronto Women's Athletic Association.

2. INVESTMENTS owned by the University are shown on the balance sheet at amortized cost plus accrued interest, with the following exceptions:

In the case of \$1,765,531 of investments held in an investment pool for building programme purposes, which were formerly held specifically for certain of the building trust funds, cost is taken as market value at the dates at which these investments were pooled.

In the case of investments held in a common pool for a number of trusts, or in the case of a large pool of investments held for a specific trust, sinking fund or general endowment, where securities are purchased out of the proceeds of sale of other securities of approximately equivalent investment quality, cost is taken as the purchase price of the new investment plus or minus the difference between book value and selling price of the securities

sold. The latter difference is amortized according to the maturity dates of the securities sold.

Certain investments held for specific trusts are shown at amortized cost or values assigned at acquisition.

3. THE COST of acquisition of new properties and of construction and initial equipping of new or rehabilitated buildings (which amounted to \$9,530,201 in 1961 and \$7,213,577 in 1960) has been added to fixed asset accounts under capital fund assets. In accordance with the University's normal practice, the statement of current operating income and expense does not include a charge for depreciation of capital assets, but it does include charges for replacement of additional equipment for other than new or rehabilitated buildings.

4. THE UNPAID portion of compensation for expropriated land is estimated to amount to \$350,000. The estimated cost to complete buildings under construction at June 30, 1961, or started subsequently, is \$12,500,000. In addition, the University has approved the purchase of a computer costing approximately \$1,100,000 for delivery in 1962.

5. AT JUNE 30, 1961, certain funds available for student loans, previously included with unexpended appropriations in Current Operating Funds, were transferred to Trust Funds. In addition, the amount of student loans outstanding at June 30, 1961 was recorded in Trust Funds as an asset for the first time and trust fund liabilities were increased accordingly. No adjustment has been made in comparative figures at June 30, 1960 to include loans of \$163,900 outstanding at that date.

STATEMENT OF CURRENT OPERATING INCOME
YEAR ENDED
(with comparative figures for

INCOME

	Year ended June 30, 1961			Year ended June 30, 1960		
	\$	\$	%	\$	\$	%
Student fees		4,950,433	21.5		4,398,989	21.8
Endowment income from:						
—general endowment	81,133			76,038		
—endowment trust funds for specific purposes	307,157	388,290	1.7	305,360	381,398	1.9
Gov't. grants for specific operating purposes	176,648			176,680		
Gifts for operating purposes	108,606	285,254	1.2	94,303	270,983	1.3
Interest and rentals from proceeds of 1969 "West Campus" debentures	166,070			288,545		
Other interest and rentals	161,211	327,281	1.4	166,896	455,441	2.3
Miscellaneous		151,237	.7		169,578	.9
Residences and other ancillary departments		570,505	2.5		574,083	2.8
Revenues from services to outside organizations		539,854	2.4		508,945	2.5
		7,212,854	31.4		6,759,417	33.5
Government grants for general operating purposes:						
Federal University grants		3,097,883	13.5		3,166,757	15.7
Province of Ontario:						
Statutory grants	507,000			507,000		
Annual grant	9,000,000			6,900,000		
Less paid to York University	250,000					
	8,750,000	9,257,000	40.3		7,407,000	36.7
		19,567,737	85.2		17,333,174	85.9
Grants and gifts for assisted research		3,387,466	14.8		2,840,076	14.1
		22,955,203	100.0		20,173,250	100.0

AND EXPENSE AND INCOME CARRIED FORWARD

JUNE 30, 1961

the year ended June 30, 1960)

EXPENSE

	Year ended June 30, 1961			Year ended June 30, 1960		
	\$	\$	%	\$	\$	%
Academic—Statement 3		13,059,482	58.6		12,198,499	59.5
General administration		595,734	2.7		547,125	2.7
Operation and maintenance of physical plant		2,375,417	10.6		2,190,967	10.7
Information, publications, Alumni affairs, etc.		316,671	1.4		237,269	1.1
Student assistance		130,039	.6		154,205	.7
Miscellaneous		236,674	1.1		234,480	1.1
Residences and other ancillary departments (including building costs)		610,198	2.7		589,799	2.9
Total University operating expense		17,324,215	77.7		16,152,344	78.7
Interest on 1969 debentures	402,500			402,500		
Interest and discount on 1970 debentures	235,714	638,214	2.9	235,714	638,214	3.1
Royal Ontario Museum (including building costs, less direct income)		934,717	4.2		874,991	4.3
		18,897,146	84.8		17,665,549	86.1
Assisted research		3,387,466	15.2		2,840,076	13.9
		22,284,612	100.0		20,505,625	100.0
Net income or (deficit) for the year before the following		670,591			(332,375)	
Appropriation for major maintenance and renovations		330,000			500,000	
					(832,375)	
Portion of increase in 1958-59 grant carried forward to cover budgeted deficit for 1959-60					823,613	
Net income or (deficit) for the year		340,591			(8,762)	
Net income carried forward from prior year		3,175			11,937	
Net income carried forward to following year		343,766			3,175	

Statement 3

University ACADEMIC YEAR ENDED (with comparative total figures)

	Salaries and wages	Pension costs	Equipment and apparatus
Faculty of Arts and Science	\$3,392,112	\$144,419	\$ 62,849
University College	633,922	25,204	3,925
Faculty of Applied Science and Engineering	1,494,961	59,625	65,547
School of Architecture	223,329	10,075	2,105
School of Business	128,775	5,622	1,604
Institute of Child Study	150,423	7,768	1,621
Faculty of Dentistry	646,397	23,463	1,543
Faculty of Forestry	123,206	5,755	2,571
School of Graduate Studies	38,842	3,684	
Faculty of Household Science	138,105	9,497	2,100
School of Hygiene	317,248	18,979	7,207
Faculty of Law	150,282	6,033	14,082
Faculty of Medicine	1,399,019	64,123	22,096
Faculty of Music	158,444	6,198	14,749
School of Nursing	138,115	9,844	342
Faculty of Pharmacy	142,489	6,115	12,207
School of Physical and Health Education	28,082	1,147	950
School of Social Work	205,176	11,043	1,733
Division of University Extension	124,150	6,724	561
Department of Athletics and Physical Education	155,430	7,395	962
Library	579,583	19,432	246,950
Banting and Best Department of Medical Research	223,043	15,636	8,996
Computation Centre	49,953	17	
University Research			
Moving expenses—Academic staff			
Travelling expenses—Academic staff			
Examination supplies			
Academic pension fund deficit			
Total academic expenses	<u>\$10,641,086</u>	<u>\$467,798</u>	<u>\$474,700</u>

of Toronto

EXPENSE

JUNE 30, 1961

for the year ended June 30, 1960)

Materials and supplies	Miscel- laneous and general	Total expenses	Comparative 1960 total expenses	Assisted research expenditures	
				Year ended June 30, 1961	Year ended June 30, 1960
\$159,106	\$ 13,481	\$3,771,967	\$3,431,919	\$ 781,145	\$ 735,405
3,363	6,151	672,565	607,088		
86,225	10,537	1,716,895	1,645,833	597,554	519,367
5,875	1,475	242,859	233,337	4,232	4,948
4,182	1,352	141,535	137,970		
6,587	2,677	169,076	146,892	37,801	21,408
71,742	28,230	771,375	703,026	54,446	52,243
5,930	16,467	153,929	147,324	11,861	12,431
4,468	71,375	118,369	114,775		
8,898		158,600	153,074	4,130	3,100
10,062	1,986	355,482	317,807	195,682	149,624
3,029	5,784	179,210	174,596	7,840	
90,818	30,665	1,606,721	1,541,924	1,394,373	1,100,091
3,681	31,905	214,977	202,674	520	
2,005	1,068	151,374	140,174	7,436	8,349
18,084	3,718	182,613	177,453	42,195	10,328
2,842	442	33,463	32,415	21,523	5,257
4,812	3,539	226,303	202,476	29,943	32,585
7,842	381,687	520,964	495,918		839
4,557		168,344	150,154		
23,005	1,211	870,181	764,194		
19,134	8,523	275,332	280,813	196,785	184,101
9,264	76,815	136,049	119,072		
	155,400	155,400	155,400		
	19,973	19,973	22,408		
	36,303	36,303	36,987		
	9,623	9,623	8,986		
			53,810		
<u>\$555,511</u>	<u>\$920,387</u>	<u>\$13,059,482</u>	<u>\$12,198,499</u>	<u>\$3,387,466</u>	<u>\$2,840,076</u>

Statement 4

University

**SUMMARY OF TRUST
YEAR ENDED**

Endowed Funds

	Balance June 30, 1960	Benefactions	Net transfers and other additions and (deletions)	Balance June 30, 1961
Trust Funds				
Scholarships, fellowships, prizes, bursaries, loan and composite funds				
—Endowed funds	\$ 2,713,831	\$ 484,619	\$34,996	\$ 3,233,446
—Non-endowed funds				
Lectureships—Endowed funds	162,558	125		162,683
—Non-endowed funds				
Departmental funds—Endowed funds	1,438,010	16,578	6,119	1,460,707
—Non-endowed funds				
Research funds—Endowed funds	5,148,724	960,000	31,000	6,139,724
—Non-endowed funds				
Miscellaneous funds—Endowed funds	281,039		(3,891)	277,148
—Non-endowed funds				
Pension funds—non-endowed funds				
Sub totals—Endowed funds	\$ 9,744,162	\$1,461,322	\$68,224	\$11,273,708
—Non-endowed funds				
Faculty and departmental endow- ments	8,064,940		(1,028)	8,063,912
Totals—Endowed funds	\$17,809,102	\$1,461,322	\$67,196	\$19,337,620
—Non-endowed funds				
	<u>\$17,809,102</u>	<u>\$1,461,322</u>	<u>\$67,196</u>	<u>\$19,337,620</u>

General Endowment

<u>\$1,888,146</u>	<u>\$ 367,188</u>	<u>\$ 9,999</u>	<u>\$ 2,265,333</u>
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AND ENDOWMENT FUNDS

JUNE 30, 1961

Expendable Funds

Balance June 30, 1960	Benefactions	Income earned during the year	Net transfers and other additions and (deletions)	Disbursements	Balance June 30, 1961
\$ 207,206	\$ 3,990	\$128,220	\$ (3,194)	\$ 90,599	\$ 245,623
642,660	505,788	17,572	255,218	431,584	989,654
15,004	350	6,466	135	4,783	17,172
12,511	16,430			13,695	15,246
75,241	1,795	78,566	38,320	32,317	161,605
1,375,406	437,582	38,477	(59,331)	303,935	1,488,199
7,996	43,159	239,961	(69,780)	122,700	98,636
1,782,065	2,493,787	29,307	(4,239)	2,342,951	1,957,969
9,286		10,469	(11,523)	5,095	3,137
503,358	168,549	23,957	28,829	137,023	587,670
965,656		37,826	(42)	86,588	916,852
\$ 314,733	\$ 49,294	\$463,682	\$ (46,042)	\$ 255,494	\$ 526,173
5,281,656	3,622,136	147,139	220,435	3,315,776	5,955,590
165,830		338,893	(335,580)		169,143
\$ 480,563	\$ 49,294	\$802,575	\$(381,622)	\$255,494	\$ 695,316
5,281,656	3,622,136	147,139	220,435	3,315,776	5,955,590
\$5,762,219	\$3,671,430	\$949,714	\$(161,187)	\$3,571,270	\$6,650,906

Statement 5

University

Supplementary to audited
statement but *not* a part
thereof.

SUMMARY OF BENEFACTIONS AND FOR YEAR ENDED

SOURCE OF

	Federal Government	Provincial Government	Municipal Government	Corporations and Industry
Scholarships, Fellowships and Prizes—				
Endowment Funds	..	..	..	..
Expendable Funds	\$ 22,600.00	\$ 41.07	\$ 1,200.00	\$174,266.75
Bursaries—Endowment Funds	..	..	..	..
Expendable Funds	..	..	..	7,804.00
Loan Funds—Endowment Funds	..	..	..	..
—Expendable Funds	..	..	..	..
Composite Funds—				
—Endowment Funds	..	..	..	1,000.00
—Expendable Funds	..	..	..	..
Lectureships—				
—Endowment Funds	..	..	..	..
—Expendable Funds	..	..	..	500.00
Departmental Funds—				
—Endowment Funds	..	..	..	..
—Expendable Funds	85,000.00	49,000.00	..	37,132.50
Research Funds—				
—Endowment Funds	..	..	..	..
—Expendable Funds	1,685,240.92	744,771.28	..	68,249.77
Miscellaneous Funds—				
—Endowment Funds	..	..	..	..
—Expendable Funds	..	..	..	..
General Endowment				
—Endowment Funds	..	..	..	..
—Expendable Funds	..	..	..	..
Sinking Funds—				
—Endowment Funds	..	..	..	..
—Expendable Funds	..	1,075,000.00	..	..
Building Funds—				
—Endowment Funds	..	..	..	..
—Expendable Funds	2,208,750.00	3,925,000.00	240,000.00	..
Total Endowment Funds	..	..	..	\$1,000.00
Total Expendable Funds	\$4,001,590.92	\$5,793,812.35	\$241,200.00	\$287,953.02

GOVERNMENT CAPITAL GRANTS

Supplementary to audited statement but *not* a part thereof.

JUNE 30, 1961

FUNDS

Associations and Foundations	Individuals and Estates	Joint Funds	Other	TOTAL	
				Endowment Funds	Expendable Funds
..	\$358,331.40	\$10,862.50	\$ 24,304.87	\$ 393,498.77	..
\$87,134.94	57,959.09	4,410.17	54,423.72	..	\$ 402,035.74
100.00	..	..	212.00	312.00	..
68,533.00	6,270.25	..	12,323.33	..	94,930.58
..	..	..	1,298.00	1,298.00	..
4,000.00	200.00	..	585.00	..	4,785.00
..
500.00	85,363.77	987.50	1,659.30	89,510.57	..
7,950.00	..	..	77.57	..	8,027.57
..	..	..	125.00	125.00	..
350.00	..	..	15,929.77	..	16,779.77
..	12,538.00	1,000.00	3,040.00	16,578.00	..
78,944.61	105,032.82	7,267.62	77,000.41	..	439,377.96
..	960,000.00	..	..	960,000.00	..
575,388.66	113,165.21	..	310,576.01	..	3,497,391.85
..
114,440.48	54,108.97	..	..	..	168,549.45
..	367,187.53	..	..	367,187.53	..
..
..	..	..	..	..	1,075,000.00
..
102,680.00	50.00	2,133,000.00	..	..	8,609,480.00
\$600.00	\$1,783,420.70	\$12,850.00	\$30,639.17	\$1,828,509.87	..
\$1,039,421.69	\$336,786.34	\$2,144,677.79	\$470,915.81	..	\$14,316,357.92
Total Benefactions				..	\$16,144,867.79

Statement 6

University of Toronto
SUMMARY OF CAPITAL FUNDS
YEAR ENDED JUNE 30, 1961

Trust Funds to Be Expended on Building Programme

Balance of funds June 30, 1960				\$ 8,824,286
Add:				
Grants and payments on account of grants—				
Provincial government grant for new construction				\$ 3,925,000
Federal government grant for computer				50,000
National Health grant for Dental Building				352,500
Canada Council grants for Arts and Music Buildings				1,806,250
Metropolitan Toronto grant for School of Business and School of Social Work				240,000
University's share of distributions from the National Fund for the University of Toronto			\$2,133,000	
Deduct:				
Allocation to York University for library purposes	\$50,000			
Grant to Engineering Alumni Association	12,000	62,000		2,071,000
Other benefactions for capital purposes				102,730
Total benefactions				\$ 8,547,480
Income from capital funds investments				238,943
Pharmacy reserve transferred from current funds				15,882
				<u>\$ 8,802,305</u>
				\$17,626,591
Deduct transfer to general endowment in capital assets of an amount equal to disbursements on new building construction, etc. during the year				9,330,638
Balance of funds June 30, 1961				<u>\$ 8,295,953</u>

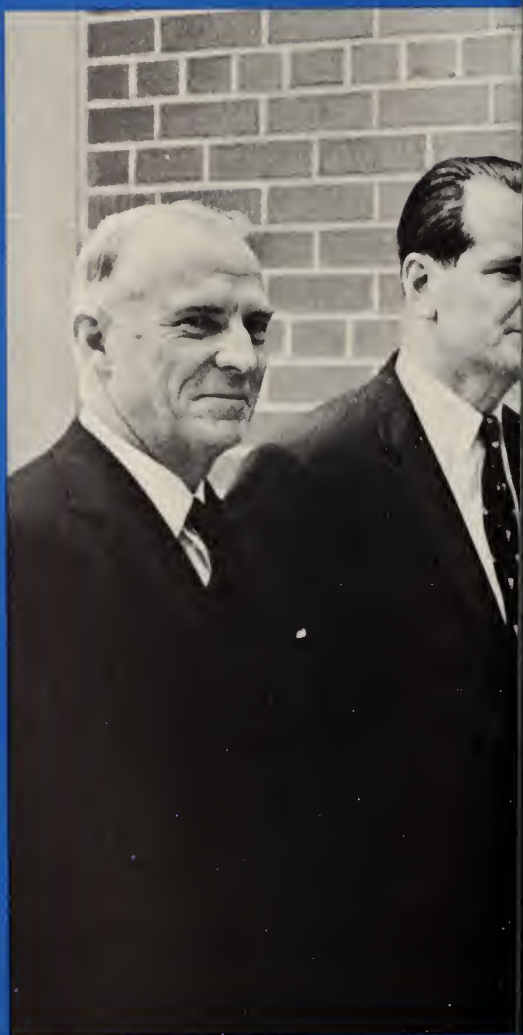
General Endowment in Capital Assets

Balance June 30, 1960				\$45,456,697
Add:				
Trust funds and grants applied against construction of buildings and purchase of properties and equipment during the year			\$9,330,638	
Additions to endowment resulting from provisions for sinking funds for retirement of debentures—				
Debentures maturing in 1969:				
Provincial grant received	\$ 800,000			
Interest on sinking fund investments	139,664			
	<u>\$ 939,664</u>			
Less amortization of discount on debentures	116,965			
	<u>\$ 822,699</u>			
Debentures maturing in 1970:				
Provincial grant received	\$ 275,000			
Interest on sinking fund investments	146,852			
	<u>\$ 421,852</u>			
Balance June 30, 1961				<u>10,575,189</u>
				<u>\$56,031,886</u>

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Cover Photograph:
Neil J. McKinnon and
M. Wallace McCutcheon
flank the plaque which
records the gratitude
of the University for
their leadership of the
National Fund. Plaque
was placed in Sidney
Smith Hall after the
December meeting of
the Senate. At left is
R. F. Chisholm who, as
General Chairman of
the Varsity Fund,
officiated. Beside him
is Dr. Claude Bissell.



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VARSITY

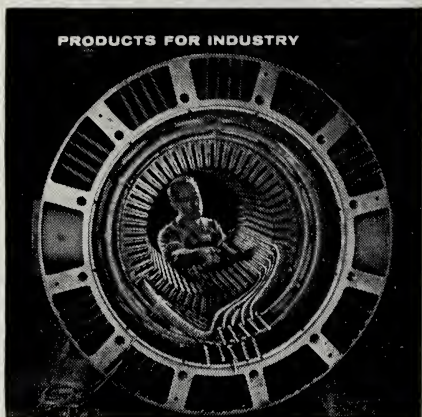
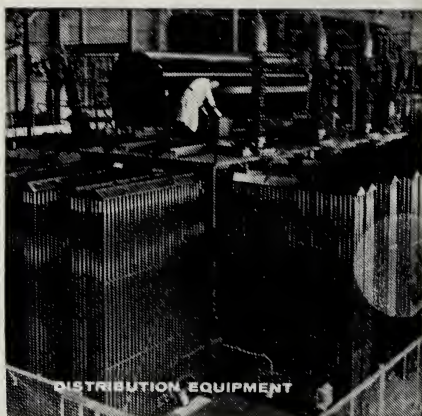
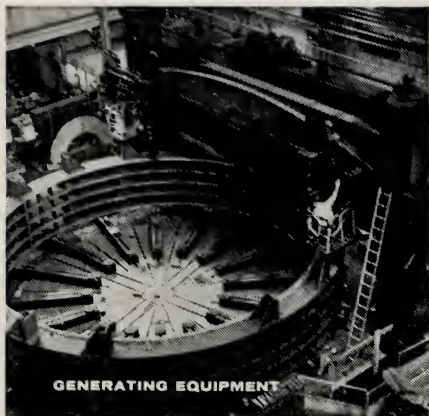
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Volume Nine

Number Five

March 1962

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ILLUSTRATIONS: Ken Bell, Cover and pages 41, 42, 44, 47, 49, 50; Bob Lansdale, 16, 17, 19 (bottom and right), 20, 21, 23, 24, 26, 27, 29, 35, 48, 54, 55, 56; Eric Trussler, 18, 19; Jack Marshall, 22. Sketches on page 57 by Eric Nasmith.



COVER: The Royal Ontario Museum is one of the three divisions which bring the University of Toronto into close touch with the general public. The others are the Royal Conservatory of Music and the Division of University Extension. How the Museum is recreating ancient glories and thus providing new dimensions for teaching is told in articles starting on page 41.

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KENNETH S. EDEY

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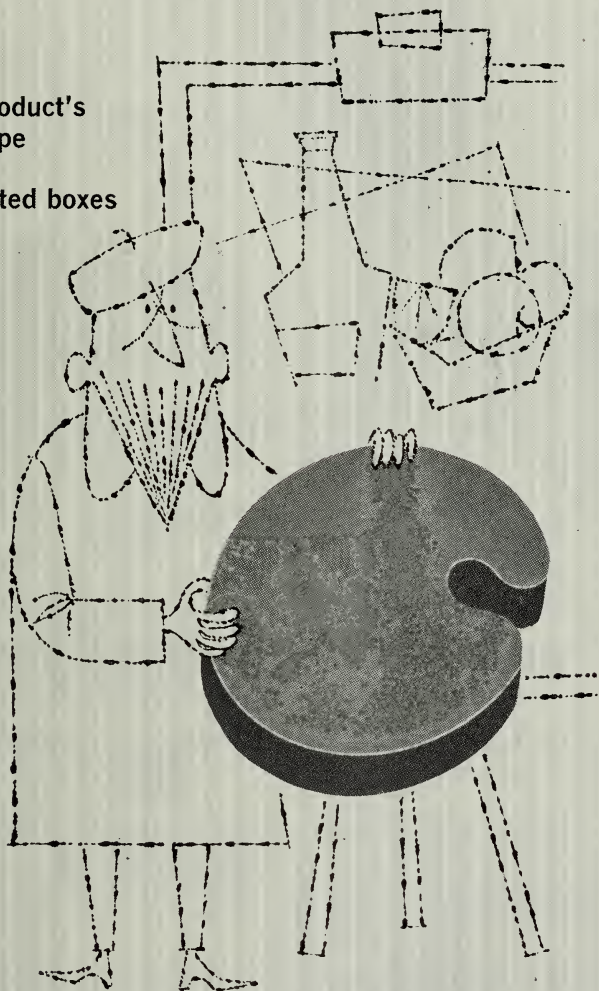
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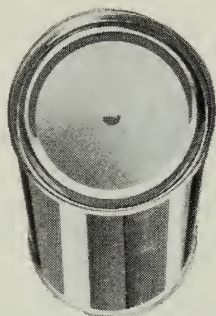
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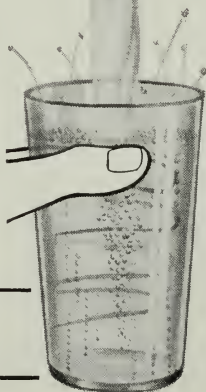
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MORLEY CALLAGHAN'S

"A Passion in Rome"

FRANK WATT

MY SUBJECT is Morley Callaghan's latest novel. However, it seems to be impossible to ignore the currently vexed question, which properly belongs to the politics of literature, of Callaghan's literary reputation. The whirligig of fashion has brought Callaghan into the bright lights and then flung him into outer darkness again so often in the some three and a half decades of his writing career that one need not be surprised at a certain giddiness and difficulty of balance in readers and novelist alike. Edmund Wilson started it all again in the *New Yorker* in 1960, after "The Many Coloured Coat" was published, by "discovering" Callaghan, hailing him as a "major" writer, the most unjustly neglected author in North America, and comparing him to Turgenev and Chekhov, thereby starting a run on Callaghan stock. But in the next year a reviewer of "A Passion in Rome" in *Saturday Night*, perhaps resenting the effrontery of this American imperialism, violently attacked Callaghan's fiction as incompetent, hackneyed, pretentious, and the dullest he had ever

read; brawling with the author afterwards on TV's Fighting Words the reviewer received (figuratively speaking) a bloody nose for his temerity. To *Time* was left the nastiest if not the last blows in this round: can it be, came the rhetorical questions, that Edmund Wilson does not much like Turgenev and Chekhov? Must there now be a new critical category for the author of "major" works no one wants to read, the "minor major writer"?

None of these controversies brings the interested reader one step nearer to Callaghan's fiction—their only importance to literature is that they may determine whether the novelist will eat while he writes his next book. My own contention is fairly simple: that it is always an interesting and rewarding experience to read Callaghan's fiction. Like Henry James, he begins with a strong sense of a certain kind of person whose destiny is as yet not fully defined; the "subject" is, what will he or she "do"? Callaghan is a traditional rather than an experimental writer because his concern is with the moral and religious implications of this "subject", not with the tech-

Mr. Callaghan is a Toronto graduate (St.M. '25). Professor Watt, with degrees from Toronto and Oxford, is in the Department of English, University College

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niques of unravelling or presenting it. "It's in the mind, it's in the eye first, it's in the thinking and seeing," an artist in "A Passion in Rome" says, and brushes aside the questions of composition and form. This is not to underestimate Callaghan's unobtrusive craftsmanship; but he gives us no complicated time schemes, no manipulations of point-of-view, no unusual narrative devices, not even any exploiting of the stream-of-consciousness.

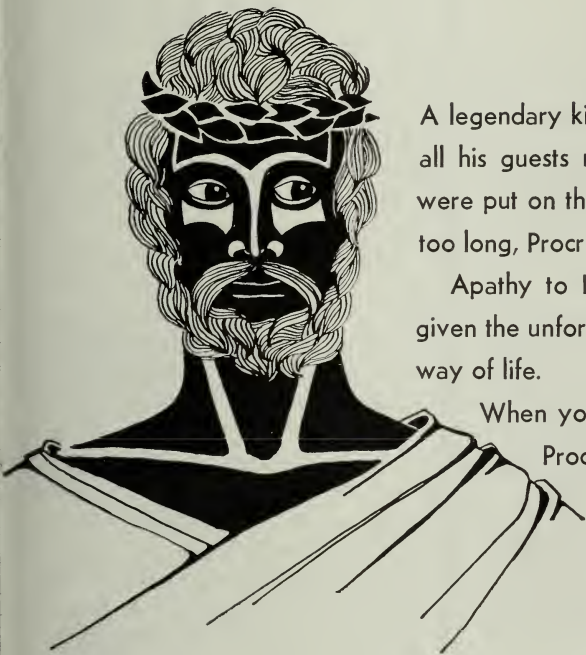
Callaghan's main technique—so simple we can hardly dignify it by that name—is a function of his total vision of life. He uses a freely moving vantage point from which to unfold his narrative: nothing hinders the omniscient author from penetrating into the thoughts and hearts of his characters, which he continually does—even passersby are open books to him. This freedom of movement, this refusal to be bound within the consciousness of one character, or of several, is the consequence of the generosity and compassion of Callaghan's imagination. The God of his novels excludes nothing from sympathy, rarely allowing that externality of view which permits satire or caricature; there are finally no divisions or discontinuities in his world between élite and mass, intellectual and ordinary man, religious and secular, saved and damned. Callaghan has simply refused to acknowledge the myth or the fact of a fragmented modern world. He accepts the danger that he may be writing about and for a society that does not exist. He may

in time disappear into the dark gulf that seems, to a less naive or less inspired vision than his, to separate the intellectual and the popular today; or he may live on as a quiet prophet of future wholeness.

If Callaghan's "monism" may be seen as a positive affirmation in a world hostile to it, then "A Passion in Rome" would have to be called the most extreme expression of it to date. At a glance the book appears to be a spicy romance set against the piebald background of Catholic Rome and the "lewdly whispering city" of "la dolce vita". A closer view shows that the work is (like most of Callaghan) religious in intention, and its apparently topical realism has symbolic functions. Let me uncover the book's skeleton for a moment. A newspaper photographer whose painting "hobby" (as his friends think of it) was actually a life-devouring obsession discovers at middle age that, as an artist, he is only a daubing amateur who has wasted his life and opportunities. His job takes him to Rome, where the triumphs of Michelangelo confirm him in his own sense of failure. The "subject" is, what will he "do"? And the answer to that question, the private story of the dying of his old self and the emerging of a new self, is played out, with a multitude of ironies, against the public background of the death of the Pope of Catholic Christendom and the election of his successor.

"Passion" in the title refers to the sexual encounter between the photographer, Sam Raymond, and Anna

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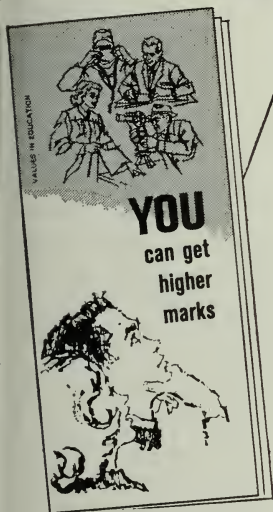
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Connel, the Italian-American TV singer gone "on the sauce", whom he rescues from aimless drunken degeneracy. It alludes also to the Passion of the Vicar of Christ, whose suffering, death, and renewal—in the selection of his successor—re-enacts the crucifixion and resurrection of Christ. The deliberate paralleling of the two kinds of "passion" is the boldest and most original aspect of the novel, risking as it does disastrous blunders into blasphemy and bad taste to come through with sometimes striking effects. The special fascination for me is in the curious focus. A rigorously secularized eye, like a newspaper cameraman's lens, studies the great central event of the Roman Catholic Church, yet the profoundest religious implications of the *spiritual* Church stubbornly resist annihilation under this harsh, ironical, often tactless gaze at the Church's mundane institutional aspect—at the hiccuping old Pope breathing out his last breath, or lying in his bier (a somewhat sickly green from a poor embalming job), or at the unruly mob of supposedly "hushed, reverential mourners" outside St. Peter's.

The novelist's intention is to relocate the spiritual vision of orthodoxy—to find a secular analogy in the lives of his characters. While the old Pope hovers between life and death, Sam and Anna both undergo a slow, uncertain purging of their former natures; and later while the balloting for the Pope's successor drags on in its serio-comic way, these two move through the painful, confusing delays

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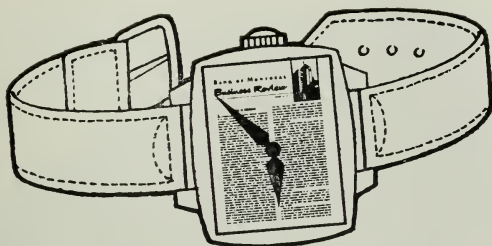
1-62

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of their discovery, in the ruins of their old lives, of new relations, new sources of energy, sanity and confidence, and the will to go on. Anna has been a creature possessed by demons, enslaved by her brutalized childhood, ruinous adolescent marriage, and humiliating failure as a performer. Sam, moved by a bewildering mixture of lust and compassion, tries to bring her to the "unselfconscious, happy possession of her own soul" which is his vision of her. In the end she has her freedom and independence, and he a "success of the heart" to make up for his frustration as man and artist. By then too the widowed Church has its Bridegroom, and the city of Rome (so persistently identified with Anna) rejoices. As the Holy Father appears before the ecstatic crowd. Sam comes closest to religious faith, and the meanings of the two "passions" almost fuse: "He felt a fierce, fugitive longing for some kind of certainty about his life . . . a desperate hope that beyond the single judgments of men was some kind of sublime rightness of things . . ."

The novel's shortcomings have elsewhere had more attention than its merits. It is very easy to make even a great novel look silly if it is read without sympathy; it is often done by accident, as any marker of first-year English essays is well aware. The novelist's creative act is not completed until there is a marriage of reader and novel; or if that sounds too promiscuous, a relation which at least is more like dancing than it is like wrestling or assault and battery.

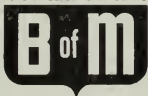


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The Battle of the Beetle

PROFESSOR ERIC JORGENSEN of Toronto's Faculty of Forestry, principal strategist in Ontario's war against Dutch elm disease, says there are two alternatives:

¶*Let the elms die and spend millions on their funerals.* Left alone, the elm-killing fungus can destroy up to 60 per cent of the elms in an area in one year and maintain that rate against survivors. When the trees die, they become hazards. The cost of removal would be more than \$10,000,000 in the Toronto area alone.

¶*Co-operate in an intensive—but relatively inexpensive—campaign which will save the elms.* Hamilton, Buffalo, Syracuse, Detroit, Rochester and other communities are doing this and are keeping their annual elm tree losses below one per cent.

In January, the University of Toronto offered its help in organizing a counter-attack throughout the Toronto area. First, the Division of University Extension announced two evening courses, one for the public in shade tree illnesses and pests, the other to train municipal employees quickly in the identification and control of Dutch elm disease. Next, the Superintendent's Office invited representatives of Toronto area municipalities, the Ontario Government, public utilities

and conservation agencies to come to the University and consider a co-operative approach.

The result of this and subsequent meetings was the Dutch Elm Disease Control Committee for Metropolitan Toronto and Region. Its chairman is J. F. Westhead, the University's senior maintenance supervisor, who has been guiding the fight against the disease on campus for two years.

Though dozens of so-called "cures" for Dutch elm disease have been suggested, scientists have yet to find one that works. For example, nothing is gained by hammering zinc nails into the ailing tree on the theory that zinc, which is a fungicide, will be carried to the infected areas.

Until a cure is found, the disease can be held in check by intensive sanitation campaigns. Communities which are doing this concentrate not on the fungus but on the small elm bark beetles which carry it from tree to tree, and particularly on the insects' breeding places in deal elm wood.

All infected or dead elms must be removed and destroyed as the first step in such an operation. Dead and broken branches are pruned from healthy trees. For extra security, the trees may be sprayed with insecticide early in the spring before the beetles hatch. Sections of bush which can't be economically treated are isolated by a belt 700 feet wide, further than the beetle travels. Regular inspections continue throughout the summer.

The initial job of removing and destroying the backlog of diseased and dead elm wood, the most expen-

sive part of the operation, could be done in Canada under government winter work projects, Professor Jorgensen has suggested. That task completed, the control cost averages \$2 to \$4 per year for every tree protected. Every tree that is allowed to die will cost about \$175 to remove. Scientists are hopeful they will have found a cure long before the annual costs add up to that amount.

The University has been carrying on this form of all-out counter-attack since the first trace of Dutch elm disease was discovered on its grounds. Last summer all of the 352 elms on



The Old Elm

the campus were pruned and nine per cent of the trees were removed. This year, Mr. Westhead expects losses to stay well below one per cent.

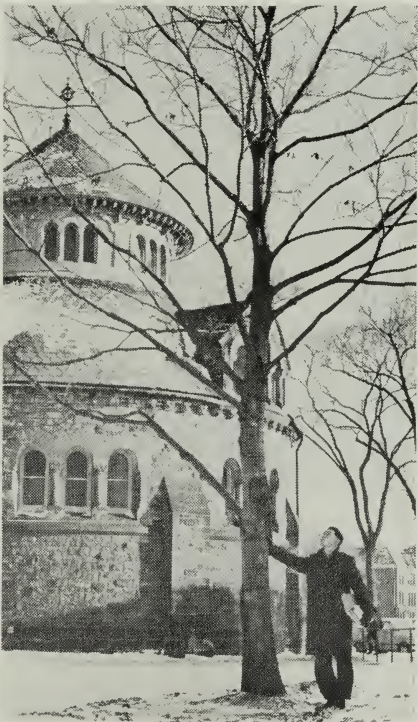
Toronto fortunately can work from the experience of many neighbours. The disease—believed to be Oriental in origin, but named after the country where it was first studied—crossed the Atlantic in 1930 in a shipment of elm burl logs. In 1944, it was found in Canada near Sorel, Que. Later it crossed the border again at Windsor and Niagara Falls. Since then, Toronto has been the centre of a creeping pincer movement.

NEW TREE ON CAMPUS

THE GREAT ELM hard by the Croft Chapter House, *left*, did not break into leaf in 1961. Strangled by Dutch elm disease, this was one of the trees which would be cut down in the University's campaign to save as many others as possible. While replacing all infected trees was out of the question, a successor to this particular elm was considered vital to the beauty of an important corner of the campus. The next few pages are devoted to a photographic record of the queen's last day and how her replacement, the thriving red oak, *right*, was found and transplanted.

Once the fungus lodges in a tree it spreads rapidly, choking off the circulation system. Diseased elms can be spotted by wilted leaves which are turning brown. The wood immediately beneath their bark is badly discoloured, a mottled, striped or uniform brown, grey or black.

Property owners in Toronto began noticing these danger signs last summer. This year there likely will be more of them. The city's elms, seriously weakened by past ice storms and widespread construction, are just what the elm bark beetle is looking for.



The New Oak



1 DISMANTLING of the old elm was delayed until after Convocation Week, 1961. Then, with no leaves around them and no students below, it took workers only a few hours to cut away the ravaged branches and work their way down to the main crotch.



2 WITH A CHAIN SAW it took only a few minutes more to cut through the foot bole of one of the few remaining witnesses to the construction of University College more than a century before. The ground shook when it fell. Next, a machine chopped the stump and its roots into a truckload of sawdust.





ARCHIVIST of University College, Professor H. N. Milnes claimed a section of the trunk. It will be displayed in the college's new museum. Immediately a search began for a suitable replacement. Mr. Jarvis, of the Cedarvale company, now, examines an elm which was a leading contender early in the game.



4 THE FINAL CHOICE: a handsome native red oak, about 40 years old, 40 feet high, and 10 inches in diameter at waist height. It was found on a farm north of Steele's avenue, about 15 miles from the campus. This photograph was taken in January.



5 WORKMEN dug a three-foot trench around the hibernating red oak, securely tied burlap about its roots and protective earth, gave the frost 24 hours to work well into the ball. Then a heavy trailer was tipped into the trench, a cable was fastened to the padded trunk, and the winch-man got his signal to haul away. The earth and roots lifted cleanly.

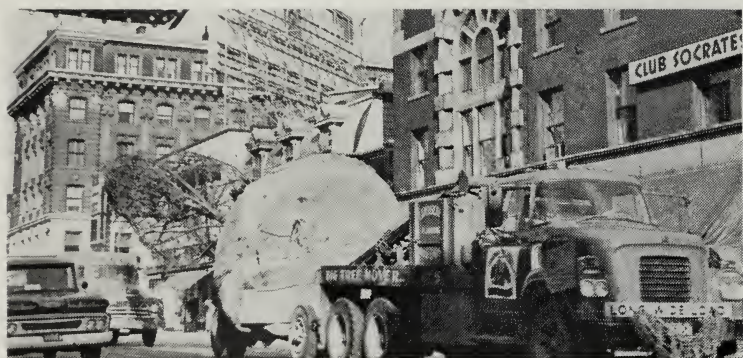




6 BRANCHES are roped with the temperature hovering at zero. A special permit was needed to move the tree which exceeded legal limits for streets and highways. The root ball measured 11 feet across. Total weight was about eight tons.



7 THE RED OAK came to town on a crisp, windless day. The convoy travelled east on 401, down Yonge street and along College to King's College Road. A typically confused freshman, the oak started University life by going the wrong way on a one-way street.





8 IT TOOK ABOUT AN HOUR to ease the elm's sturdy young successor into its bed. The oak stands, *second from left below*, where the elm spread its roots before there was a University of Toronto. Only the freshly-turned earth proclaims it a new arrival.





The new chairman is famous for the Toronto Lamp and his relentless investigation of the molecule

Change of Command in Physics

TWO ABSORBING INTERESTS had Harry Welsh as a student at Toronto. One was physics (he was in the maths and physics honours course); the other was music (he was studying piano under Reginald Stewart and working towards a Bachelor's degree in the Faculty of Music). This conflict was resolved one afternoon in his fourth year with some help from Sir John McLennan, then head of physics, who bore down on him during a lab period.

"Just when," demanded Sir John, "are you going to give up this blank-blank music?"

Undergraduate Welsh made a decision he has not regretted and this July, a quarter of a century after the memorable encounter, Professor Welsh will become chairman of the department of physics and assume Sir John's old responsibilities—which include doing whatever is necessary to prevent the good ones from getting away.

Physics is one of the largest departments in the University. The professorial staff of 30 is backed up by 129 part-time and full-time academic and technical personnel. More than 2,300 students from 11 divisions of the University use its facilities.

The new chairman is known for his ruthless pursuit of molecules into the Himalayan and underseas worlds of physics, in near-vacuum and at pressures of $37\frac{1}{2}$ tons per square inch. In the process he has acquired an international reputation for the

Left: Professors Harry Welsh and David Scott with a drawing of the new Physics Building, designed with the help of a users' committee headed by Professor Scott. Acting chairman of the department this year, Professor Scott did his graduate work under Professor Welsh and will continue to carry some of the administrative load.

amount of data collected and neatly catalogued in his laboratory. At its last annual meeting, the Canadian Association of Physicists awarded him its annual medal for achievement in physics.

Professor Welsh enjoys teaching, but research is his first love. "You have to give a university student some idea of the present state of his subject," he said recently; "and physics is changing so rapidly that the only way to keep on top is to do research yourself." A pioneer in fields explored at only three or four other centres, he has displayed ingenuity as an investigator. With the late Professor M. F. Crawford he developed an extremely intense, sharp light source known to scientists around the world as the "Toronto lamp". Just now he and his associates are trying to produce a solid form of oxygen which will be clear like crystal instead of opaque like an icecube.

Professor Welsh's principal instrument is the spectrograph. He began using powerful and sophisticated versions of it in new and adventurous ways quite early in his career.

In one series of experiments, he began investigating the interactions between molecules. To study the structure of individual molecules, he had worked with as few of them as possible in a near-vacuum. Now, to encourage interaction, he needed to squeeze the molecules together.

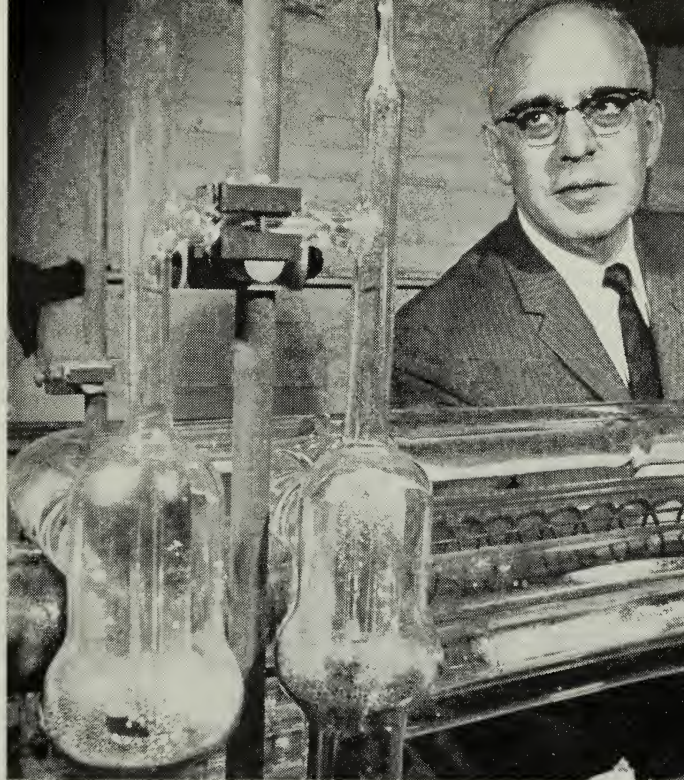
In the centre of a one-foot steel cube with little quartz windows three-quarters of an inch thick, he trapped hydrogen under 5,000 atmospheres—

a pressure of 37.5 tons per square inch. As insurance against explosion, Professor Welsh and his assistants surrounded the cube with heavy rope shock screens and made their observations by telescope. Significant discoveries began almost immediately and, with new equipment, it is hoped to reach 10,000 atmospheres.



Physics' new chairman is seen at *right* with a research instrument which has earned him wide recognition. This is the famous Toronto Lamp. Water-cooled, it permits much more precise readings for researchers. Before it was developed by Professors Welsh and Crawford, heat within light sources created high pressures which produced wide lines on the spectrum.

Left: Some magic was being performed with liquid air when this picture was taken of Professor Elizabeth J. Allin and Professor Harry Welsh.



Research colleagues of Professor Welsh include Professor J. C. Stryland, trained in high-pressure work at the famous Van der Waals laboratory in Amsterdam; Professor Elizabeth Allin, whose main interest is spectroscopy; a second scientist from Holland, the young theoretical physicist, Professor Jan van Kranendonk; two of Professor Welsh's former students, Dr. H. P. Gush and Dr. A. D. May, who took advanced work in Paris.

Seventeen graduate students work with these members of the staff.

Professor Welsh accepted the chairmanship of the department on the understanding that he would have

help with the administrative load, allowing him time for his beloved research. However, he is resigned to giving up one of his interests—translating Russian scientific articles for publication in North America.

Proficient in French and German, Professor Welsh learned his Russian during the war.

"I was in Ottawa, advising on operational research," he said. "It was top-secret work which I couldn't take home with me. For something to keep me busy in the evenings, my wife and I decided to study Russian."

"She is better at it than I am," he added.

TORONTO HONOURS FOR A CLASSICIST

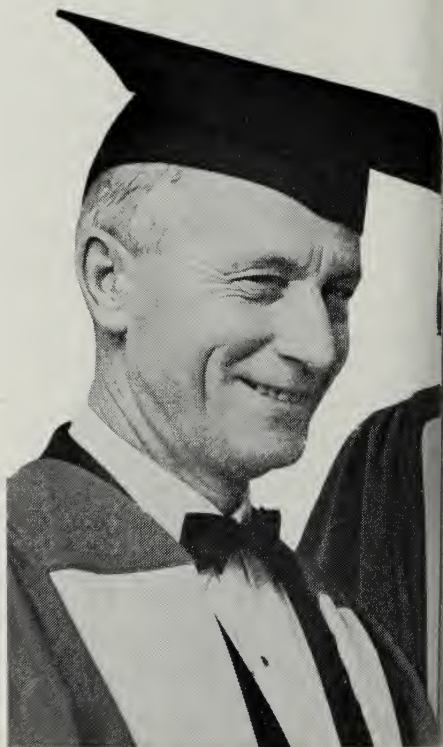
"Perhaps," said Dr. Claude Bissell, "the long-enduring strength of classical studies lies in this, that the student who lives in the magnetic field of these writers and thinkers receives something of their power by a species of magnetic induction."

"I believe," the President of the University added, "that Charles Bruce Sissons is an example of this transfer of power. In his writings there will be found, where called for, a Ciceronian flourish. As the historian of Victoria University and biographer of Egerton Ryerson, he displays both the scientific observation and the dramatic flair of Thucydides. Above all, he is a teacher in the Socratic tradition."

These remarks were addressed to the Chancellor, Dr. F. C. A. Jeanneret, when Dr. Bissell presented Professor Sissons for the degree of Doctor of Laws, *honoris causa*, at the University of Toronto Fall Convocation.

Born at Crown Hill, Ontario, in 1879, Charles Sissons was a public school teacher in Vespra Township, a high school teacher in Chatham, and a high school principal in Revelstoke, B.C., before joining the Victoria College teaching staff in 1909. He has been Professor Emeritus of Ancient History at Victoria since 1947. "He has achieved the educational pentathlon," Dr. Bissell observed.

"Professor Sissons," the President added, "has matched intellectual vigour with moral courage and physical intrepidity. Few other mountaineers have insisted on scaling Mount Olympus in the dangerous off-season."



DR. HOMER THOMPSON

AN ECONOMIST, AND AN ARCHAEOLOGIST

I am told that in his earlier days of mountaineering Professor Sissons met a young lady on top of a mountain, and that the result of that meeting was a marriage that came as close as possible to being made in heaven."

The second of three distinguished scholars to receive the LL.D. at this Convocation was Homer Thompson, native of Devlin, Ontario—where he was born in 1906—and, since 1947, Professor of Classical Archaeology,



DR. C. B. SISSONS

DR. JACOB VINER

Institute for Advanced Study, Princeton, N.J. Except for war services, Professor Thompson was on the University of Toronto staff from 1933 to 1947, first as Assistant Professor of Archaeology and finally as Professor in this department and Assistant Director of the Royal Ontario Museum.

The third to be honoured was Jacob Viner, born in Montreal (1882) and a Bachelor of Arts from McGill (1914). Dr. Viner taught for about thirty years at Chicago, for fifteen at Princeton, is now Visiting Research Professor of Economics at Harvard.

Dr. Viner was presented to the Chancellor by Dean Vincent Bladen of the Faculty of Arts and Science. Dr. Thompson was presented by Dr. Moffatt St.A. Woodside, the Principal of University College.

"Homer Armstrong Thompson," said Dr. Woodside, "is one of the leading teachers and investigators of the present century . . . a person great enough for all his greatness to continue an illustrated lecture to a freshman class while all his slides are being shown upside down, a Homer who, unlike his great namesake, is always wide awake."

"Dr. Thompson's biographers," he continued, "are likely to dwell largely on the work in the Agora of ancient Athens which he has been carrying on for over thirty years, and of which he has been director since 1945. Thanks to Homer Thompson and his colleagues, the anatomy of the small but life-giving heart of the ancient state of Athens is now known.

"More than two thousand years ago, an adopted son of Athens made to the city he loved the princely gift of a beautiful two-storied portico. All of it had vanished except the foundations, some fragments of the fabric and a few literary references. Homer Thompson had the idealism to realize the idea of rebuilding the portico as it was in the beginning. . . . It stands there now, regal, beautiful, perhaps the most noble museum in the world."

Dean Bladen said it might seem paradoxical, but that he believed it to be accurate, to describe Dr. Jacob Viner as one of the founders of Canadian Economics.

"I have particularly in mind," he said, "the contribution he made in training and inspiring a generation of Canadian graduate students at the University of Chicago, students who came back to Canada and whose work provided the foundation on which modern Canadian economics has been built. Harold Innis, Pete McQueen, Alex. Elliott, Harry Logan, Clifford Curtis and Frank Knox—it is the support that Dr. Viner gave these men, first as graduate students, then as friends, that constitutes a great part of our debt as Canadians to our expatriate colleague."

"There is, of course," the Dean continued, "a more direct debt which political economists, without reference to national origin, owe to Dr. Viner. We, who are familiar with his writings, recognize him as a leader in the international community of scholars. He is equally at home among

the sermons of the seventeenth century, the mercantilist pamphlets of the eighteenth, the classical treatises

of the nineteenth, and the abstruse, technical papers of modern economics."

"A design for dangerous intellectual living"

Speaking for the honorary graduates, Dr. Viner addressed himself to the young men and women receiving graduate and undergraduate degrees.

"Continue to read great books, old ones and new ones," he advised them. "But pass their lessons through the filter of your own minds, absorb them discriminatingly, in the light of your own reason, and, at least if they are in the realm of temporal affairs, accept them not because they come from an authority, but because you have been reasonably persuaded by their arguments. . . . Do not make gods out of men, do not be a disciple. Bethink you constantly that the authority you are following may be wrong, and keep your mind open always to the possibility that new knowledge, new insights, new values may before long make his error evident.

"There are dangers, I concede, intellectual, moral, even material, in this procedure, and it needs to be pursued with measure and balance. The independence I am recommending is for adults, not children, and it must not be carried to the length where it becomes intellectual pride, arrogance, the substitution of yourself as an authority for the authority of a great man or a great tradition. . . .

"Nor am I recommending unlimited scepticism, or negativism, or aversion

to attaining strong convictions whether from outside sources or from the workings of one's own reasoning capacity. I have long regretted that we have abandoned the distinction which was made by David Hume, and by John Stuart Mill following him, between a 'proof' and a 'demonstration', or at least for our failure to see the ever-recurrent need for the distinction which they made. . . . For Hume and Mill a demonstration was an argument whose refutation would be inconceivable to a reasonable man, whereas a proof was an argument falling short of demonstration, but so persuasive that if there was sufficient motive to a decision one way or the other a reasonable man would feel bound to accept it, subject, however, to amendment or rejection upon the appearance of new evidence or new reasoning to the contrary. . . . Be highly sceptical of the availability of 'demonstrations', but be only duly cautious, retain only the right to reconsider, to re-appraise, to search, to ponder, and to consult other doctors, when it is a question of 'proofs'. . . .

"This is a design for dangerous intellectual living I recommend to you. It is a design which if followed will constantly keep your intellectual muscles stretched, and may at times strain them."

The University's Benefactors (IV): Every day the Connaught Medical Research Laboratories add lustre to the name of Sir Albert Gooderham

Benefactor o

COLONEL SIR ALBERT E. GOODERHAM believed that wealth imposed certain social responsibilities—if you could help, you should, and the less said about it the better.

"Uncle Albert wasn't one to talk about the things he did," Henry Gooderham remarked recently. The Colonel's daughters, Mrs. E. C. Burson and Mrs. F. Hilton Wilkes, agreed. They said there were many lively discussions around the dinner table at Deancroft, the Gooderham home in Toronto's Rosedale, and often as not some cause supported by the family was the topic. But the family's actual gifts were not mentioned.

At the University of Toronto, the Connaught Medical Research Laboratories—which owe their existence to Sir Albert's foresight and generosity—carry on in his tradition of unobtrusive humanitarianism. Connaught's glory lies in diseases seldom mentioned now and in deaths which do not happen.

A Canadian father today is more afraid of falling off a ladder than he is of smallpox, more fearful of a squirrel bite than of typhus. He prays that

his youngster won't be hit by a car—not that he will escape typhoid or diphtheria.

Yet, as recently as 1915, Ontario deaths from diphtheria totalled about four hundred a year. At one time there were cholera hospitals throughout the province. The Connaught Labs have had much to do with driving these killers into hiding in this part of the world and have led in the fight against other scourges: polio, tetanus, whooping cough, gas gangrene, diabetes, influenza, heart disease, and rabies.

Headquarters for Connaught Laboratories is the old Knox College building, an island in Toronto's Spadina avenue just north of College street. Another fifty buildings are on 300 acres of pasture and Woodland south of Steeles avenue and east of Dufferin. There is a 300-acre farm at Bolton, Ontario. The Western Division is at University of British Columbia.

This great enterprise had its beginning just before the first world war. Among the discoveries of that exciting period in preventive medicine was a diphtheria antitoxin. This had proved its effectiveness but was too expensive

Humanity

for most families. With his own money, Dr. John G. FitzGerald, Toronto graduate of 1903, built a horse stable and an injection room and there began production of a cheaper serum. In May, 1914, the University of Toronto officially adopted Dr. FitzGerald and his small laboratory. Soon a vaccine against smallpox was being produced as well.

As a member of the University's Board of Governors, Colonel Gooderham actively supported this development. A year later, as chairman of the Ontario Division of the Canadian Red Cross Society, he was the key figure in converting the laboratory to the national war effort.

In 1915, many Canadian soldiers wounded in France and Belgium were dying of tetanus. Some lives were being saved with an antitoxin produced in the United States—but this cost \$1.35 a dose and was in short supply. Production of the antitoxin in Canada was imperative. The Canadian Government turned to the

Right: This snapshot of Colonel Gooderham and one of his grandchildren was taken about the time the Connaught Laboratories were created.



JAMES KENNETH WALLACE FERGUSON, M.B.E., M.A., M.D., F.R.S.C., has been Director of the Connaught Medical Research Laboratories since 1955.

1907: Born in Tamsui, Formosa, where his father, Dr. James Y. Ferguson, was a medical missionary. (Now 84, Dr. Ferguson, Senior, is in general practice in Toronto; he was for many years chief surgeon and chief of staff at the Toronto East General Hospital.)

1920: George Watson's College, Edinburgh; 1921: Malvern Collegiate, Toronto.

1924-1932: University of Toronto. B.A. (honours in biological and medical sciences) 1928; M.A. (physiology) 1929; M.D., 1932.

1932-33: Internship at Toronto General Hospital.

1933-34: National Research Council (U.S.) Fellow at Cambridge University.

1934-36: Lecturer and Assistant Professor of Physiology at the University of Western Ontario.

1936-38: Assistant Professor of Physiology, Ohio State University.

1938-41: Assistant Professor of Pharmacology, University of Toronto.

1941-45: Royal Canadian Air Force Medical Branch.

1945-55: Professor and Head of Pharmacology, University of Toronto.

Scientific Contributions:

1940: Discovery of major reflex controlling child birth, Utero-pituitary reflex which controls uterine contractions during labour.

1942: Development of non-freezing oxygen mask used by R.A.F. North Atlantic Ferry Command. For this and other contributions to aviation medicine awarded the M.B.E. in 1945.

1955: Development of new drug for treatment of alcoholism: Citrated Calcium Carbimide (T.N.Temposil).

Red Cross, the Red Cross turned to Colonel Gooderham and Colonel Gooderham turned to the FitzGerald laboratory.

Dr. R. D. Defries was taken on the University staff to direct the tetanus project and soon laboratories in the cellar of the Medical Building were turning out enough antitoxin to meet all Canadian needs. The cost: 34 cents a dose. Before hostilities ended the University laboratory had produced 250,000 doses of tetanus antitoxin and more than a million doses of smallpox vaccine for the armed forces.

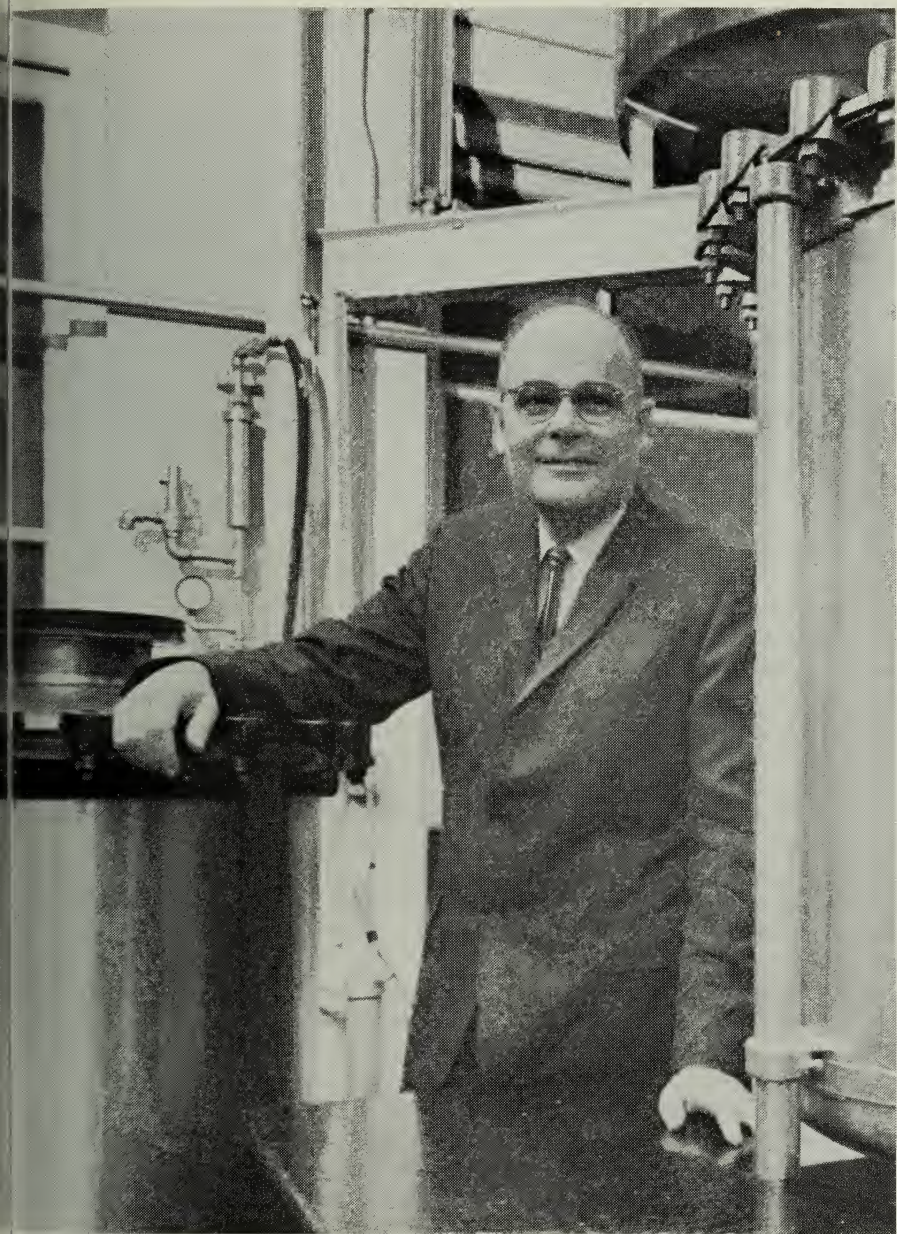
Dr. Defries succeeded Dr. FitzGerald as director in 1940 and has been director emeritus since 1955.

Recently he recalled how, with the first war still dragging on, Colonel Gooderham decided the whole operation should be put on a better basis.

"One day," said Dr. Defries, "the Colonel drove Dr. FitzGerald out to look at 57 acres on the Don River. If Dr. FitzGerald liked the looks of it, he proposed to buy the property and to build an up-to-date laboratory."

On Oct. 25, 1917, the Colonel's 34th wedding anniversary, the Laboratories were opened officially.

"FitzGerald had the dream, to create a centre in Canada which would do the work he had seen at the Lister and Pasteur Institutes in London and Paris," Dr. Defries continued.



"But it was the Colonel's gift that gave the dream permanence. It was no little thing, in view of the war and the uncertain future, to have such faith in the venture of a University professor."

Sir Albert spent about \$100,000 for the property and the two original buildings which are still in use. Subsequent acquisitions by the University have enlarged the tract to 300 acres.

Until his death in 1935, Sir Albert was chairman of the Connaught Laboratories Committee appointed by the Board of Governors. He was succeeded, for three years, by Dr. H. J. Cody, and then by Dr. Balmer Neilly whose term (1938 to 1949) embraced the period of the second world war and enormous new demands on the Laboratories.

"Sweeping decisions had to be made quickly in those days," Dr. Defries has said; "it was largely because of the financial ability and judgment of Balmer Neilly and his vice-chairman, F. K. Morrow, that we managed so well."

One achievement in which Dr. Neilly played a large personal part was the purchase of the derelict old Knox College building on Spadina crescent, its complete renovation and equipping—all within eight months—to produce large quantities of penicillin.

Since 1949, the Connaught Committee has been headed by J. S. D. Tory and its present chairman, Hon. Mr. Justice Arthur Kelly. Dr. J. K. W. Ferguson has been Director of the Laboratories since 1955.

ACHIEVEMENTS

FOR ALMOST half a century, in peace and in war, the Connaught Laboratories have stood as a bastion against disease, death, and the results of man's inhumanity to man. The writers of the preceding article have lightly sketched in the outline for a mural on its origins and growth. The paragraphs which follow hint at the detail which could be added.

Insulin

In 1922, the first attempt to produce Insulin in quantity had broken down. Daily the pleas for this new life-giving hormone grew in volume and intensity. Some diabetics even invaded the University of Toronto laboratory where Dr. Frederick Banting and Dr. Charles Best had made their discovery the year before. Dr. Best joined the Connaught staff to solve the problem and new mass-production techniques were put into operation. Among Connaught's contributions were crystallization of the hormone and development of protamine zinc Insulin.

Liver Extract, Heparin

In 1927, work started on a better liver extract for pernicious anaemia. As a result of continuous improvements, some made at Connaught, a patient may now take one injection a week instead of eating half a pound of liver a day.

In 1918, heparin was discovered but not until 1933 were techniques evolved to put it into large scale production. An anti-blood-clotting agent, heparin made more advanced surgery



Colonel Gooderham was struck by the beauty of the tract which he bought for the University of Toronto in 1917 and which remains part of the Connaught Medical Research Laboratories' Dufferin Division. In this family album snapshot, he is seen on the banks of the Don River which meanders through the property. The river had been dammed to power a grist mill and, for some years, the Gooderhams retained rights on the stream "for boating, bathing, fishing, skating and other sports".

possible. It also led to control of blood clotting in patients with coronary thrombosis.

Influenza, Botulism

In 1935, work was started on influenza vaccines and, in the same year, the Laboratories' Western Division was set up at University of British Columbia. This division has since become widely known for its work on food poisoning, especially botulism. Botulism is produced by a bacillus so deadly that the mere tasting of spoiled food has been known to cause death. It is feared as a possible agent in bacteriological warfare. One Western Division anti-toxin has been tested as far away as Japan.

World War II

In World War II, the Connaught staff grew from 250 to 900. The

Laboratories processed more than two million donations of blood into dried plasma. A three-in-one injection of smallpox vaccine, typhoid-paratyphoid vaccine and diphtheria toxoid was developed. From this grew the modern Canadian method of inoculating children with a single four-in-one shot against whooping cough, diphtheria, smallpox and polio. Fundamental research at Connaught resulted in a cholera vaccine.

Typhus, Penicillin

Gas gangrene is caused by a tiny organism which infects a wound. Using a thousand horses as donors, Connaught supplied 400,000 preventive injections during the war years. Throughout history, typhus has followed the armies, usually causing

(Continued on page 68)

Varsity's first cheer-leader was an Engineer who favoured a tweed suit, a cane—and a bowler

He wrote "*The Blue*

THE AUTUMN OF 1908 was a great one for Varsity spirit. The Undergraduate Parliament started a Glee Club, an Orchestra and, to sing at rugby games, a Male Chorus of several hundred voices. They also introduced a Varsity rug for sale in blue and white. The football team responded by winning the Intercollegiate championship and very nearly took the Dominion title from the heavier, older Hamilton Tigers.

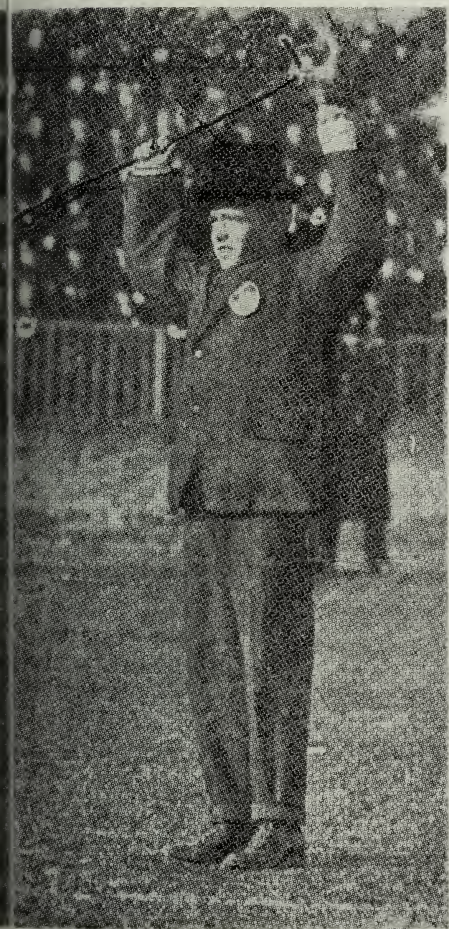
And *The Varsity*, newly transformed from literary journal to newspaper under the editorship of Harry Hindmarsh (who would guide news-gathering on the *Toronto Daily Star* for a generation) proclaimed the University's need for a new college song. The old one, "Pride of the North", it dismissed as mediocre.

A friend showed the editorial to Clayton Bush, an Engineering student

who was both president of the new glee club and leader of the male chorus. Back in high school, Bush had written and published a march he called "Guards on Parade". It took him little more than an evening to rough out the music for a new University song. Toronto students still sing it every time the Blues get a touchdown.

The words for "The Blue and White" were written by C. E. Silcox, a University College student active in a host of campus groups. Silcox had never met Bush and wasn't anxious to tackle the job, but finally agreed because he had written the *Varsity* editorial which started it all.

The song made its debut at a theatre night on February 11, 1909. For that evening's touring production of "The Prisoner of Zenda", students had bought out the Royal Alexandra



This photograph of Clayton Bush in action appeared in a Toronto newspaper the Monday after the first Grey Cup game in 1909

and White”

and draped it in University and faculty colours. President Falconer and other staff members occupied the boxes. As the audience filed in, comments—not always kind—rained down from the exclusively-male “gods” upon more fortunate youths sitting with escorts in the orchestra. To restrain the more boisterous spirits during intermission, the Glee Club performed from a block of seats in the upper balcony. “The Blue and White”, newest item in their repertoire, was a triumph.

The song was not arranged for bands in time for the 1909 football season, but Clayton Bush played another important part when the Blues defeated Ottawa Rough Riders 31 to 7 in Canada’s first Grey Cup game that year. As conductor of the male chorus, he was Varsity’s first cheerleader.

The chorus, which led yells as well as singing, had its own 700-seat bleacher in the old Rosedale Athletic Field. To fill it, Bush advertised in *The Varsity* that anyone attending three rehearsals would be able to get a game ticket for 25 cents. It was a powerful inducement. Rosedale's stands were so inadequate that for the final game, the line-up for reserved seats began 25 hours before the box-office opened, and by tea-time was long enough to take up all available seats. Bush got more volunteers than the bleachers could hold.

"What stands out most in my memory was training the fellows in three-part harmony", he recalled recently. "There were maybe 1,000 voices at the rehearsals in Convocation Hall, which had just been built. They told me that when we sang at the game in Rosedale, the harmony could be heard down to Bloor Street."

Cheerleading was dignified then. Bush, formally attired in bowler and tweed suit, conducted from the sidelines with a long cane. At one point, he signalled to chorus members in special seats to remove their blue jackets. The white sweaters thus exposed spelled out across the bleacher the single word TORONTO.

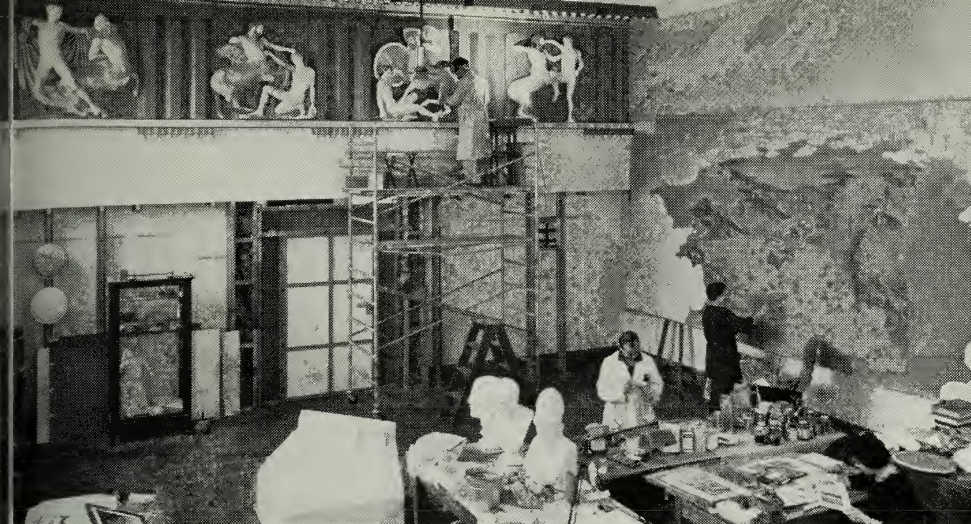
"The Blue and White" took a while to catch on as the University song. "It was really Captain Slatter, band-master of the 48th Highlanders, who was responsible for its eventual success", Mr. Bush explained. "His band used to play at Varsity games, and week after week he drummed in the song until it took."

Twenty-five years after he wrote the music, Mr. Bush returned to the campus to conduct it again at a University Band concert in Convocation Hall. Dr. Silcox was there, too, one of the few times the two men met after their collaboration.

Dr. Silcox entered the ministry after graduation and devoted his life to religious liberty, as general secretary of the Social Service Council of Canada from 1934 to 1940, and later as director of the Canadian Conference of Christians and Jews. He was well known as an author, lecturer and scholar until his death last year.

Mr. Bush went west after a post-graduate year as a Fellow in Surveying, enlisted in 1914 in Calgary, and spent three years in France, rising to Major in the Canadian Corps of Cyclists. After the war he became one of the first divisional engineers of the Ontario Department of Highways. Then he went to the Ontario Hydro-Electric Power Commission where he quickly built up a reputation as a tough bushman and deadly accurate surveyor on a number of difficult jobs; among them were the original ground surveys for the Ogoki and Long Lac diversions, which sent water normally flowing into James Bay to the Great Lakes. Since retiring from Hydro in 1945, he has been head, and more recently consultant, of the hydraulics section, Ontario Department of Lands and Forests conservation branch.

But, since he gave the University of Toronto "The Blue and White", Mr. Bush has never written another song.



NEW DIMENSIONS FOR TEACHING

FIVE YEARS in the making, the Athens Gallery at the Royal Ontario Museum is an archeological oddity—an exhibit in which there is nothing old. Everything sparkles as though the centuries have been rolled back and Athens rules the sea. The job is not finished, but it is hoped to have the gallery's doors open sometime this year. One corner of the exciting room is shown above. The scaffold rises to the sculptured figures seen on the cover of this issue.

The man behind the Athens Gallery, its designer and fountain of research, is Dr. Walter Graham, who has two University of Toronto posts: Professor of Art and Archaeology and Curator of the Museum's Greek and Roman Department. He is a Nova

Scotian who graduated from Acadia University, received a doctorate from Johns Hopkins University, and then taught at the University of Missouri. He came to Toronto in 1947 to succeed Dr. Homer Thompson (*page 28*).

An author (he has just completed a book about Cretan palaces) and a teacher (at both graduate and undergraduate levels) Dr. Graham sees the gallery as primarily a teaching device. He says the only way most museums can represent the great sculpture and architecture of Greece is through casts —“a medium to which we have tried to give new dimensions”.

The next nine pages are devoted to these new dimensions and to the people who have helped Dr. Graham to achieve them.

The Greek

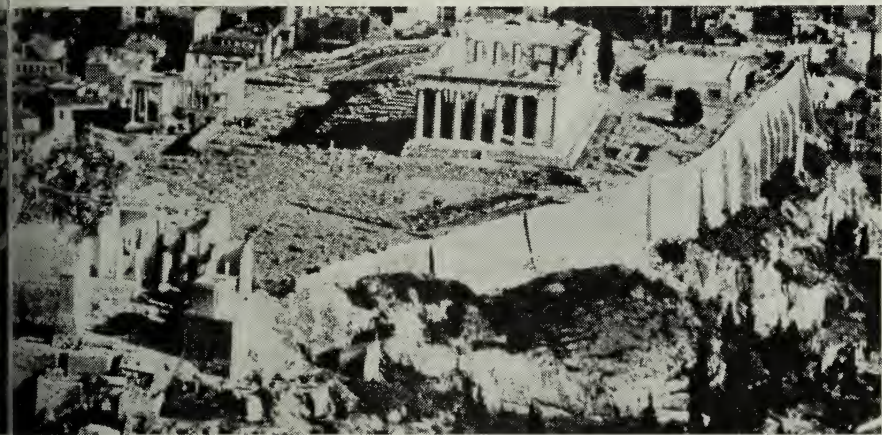


Professor Walter Graham—shown *above* with the Royal Ontario Museum model of the Acropolis as it looked two thousand years ago—hopes to have the Museum's Athens Gallery ready for visitors later this year. The air view of the Acropolis today, *facing page*, is printed courtesy of Nelson/Elsevier who publish "Atlas of the Classical World"

Behind the scenes at the Royal Ontario Museum:

Text by Ian Montagnes, Photography by Ken Bell

Loved Colour



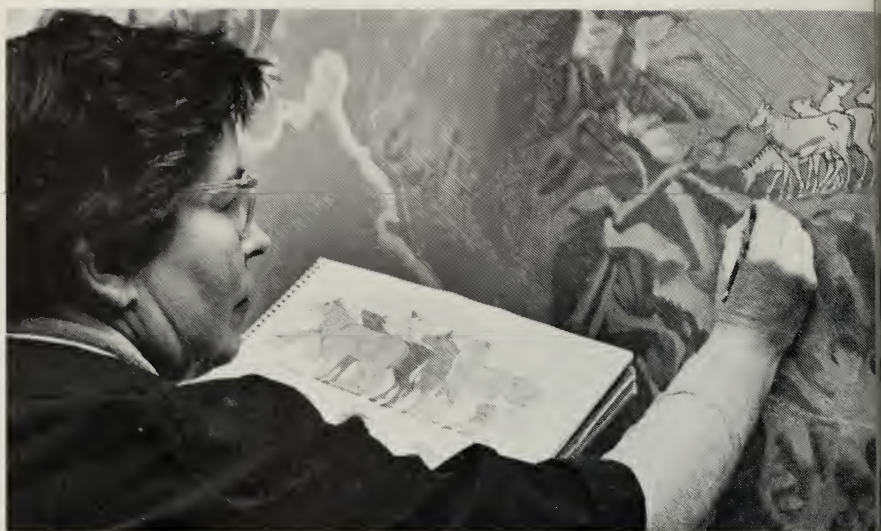
THE STATUES and buildings of ancient Athens once blazed with colour—and they do again in the newest gallery of the Royal Ontario Museum. The first surprise a visitor encounters in the nearly-completed Athens Gallery is colour: pastels, gold, green, and particularly the striking combination of blue and red.

One of the gallery's fathers was G. P. Stevens, an American archeologist trapped in Athens by the Nazi invasion. He spent the war years making a five-foot plaster model which summed up a life-time study of the Acropolis. In 1955, Professor Walter

Graham saw the model in Athens and ordered a copy for the R.O.M. (Enter now a foster father: Walter Laidlaw, member of a family which encourages scholarship in a very practical way. Mr. Laidlaw paid the bill for the Acropolis model and has since made further contributions to the gallery.)

When the model reached Toronto in 1957, Professor Graham saw it as too white, with columns too smooth and buildings too naked. He called in Sylvia Hahn.

Miss Hahn began by fluting the columns of the buildings. The Parthenon columns—the largest—were two inches high and a quarter of an



SYLVIA HAHN comes by her talents naturally. Her father is Gustav Hahn, the designer, still active at 95 (VARSITY GRADUATE, Christmas, 1960). Her mother was her father's first student in a course he gave at the Ontario College of Art. Sylvia Hahn also enrolled there to study painting and then worked in sculpture with her uncle, Emmanuel, probably the best-known member of the family. For six months of the year Miss Hahn is at the Museum where visitors know her murals well. The rest of her time is spent working on commissions in stone and silver at the Hahn summer home.

Facing page, top: Miss Hahn transfers detail from her sketchbook to a map of Attica for the Athens Gallery. Her source material: a standard topographical map—and 1,500 slides which Professor Graham took on four trips to Greece. "I get dizzy turning mountains around," she has confessed.

Facing page, bottom: The artistry which went into the tiny figures in the Parthenon procession is apparent here. The five-foot model is in one piece and Miss Hahn, not a tall woman, bent over it, doing her delicate work until her muscles cramped. One careless move could have destroyed a building.

inch wide. On each, using a tool she designed and made herself, Miss Hahn scratched 20 evenly-spaced vertical grooves to match the giant originals. On smaller buildings, with smaller columns, she did her best.

Using another home-made tool, Miss Hahn modelled roof tiles to scale. She built up the cliffs on which the Acropolis stands, scratched in the cracks of its stone walls, "planted" trees, painted and sculptured miniature friezes, in every case following the detailed research of Dr. Graham and other archaeologists. Where only the bases of statues stand today in Athens, she replaced a score of ancient monuments, including a famous head of Pericles which in scale is no larger than a pinhead.

Finally, Miss Hahn created a procession of men and women, horses and sacrificial cattle, none more than

a third of an inch high. There are about 125 figures. ("I never counted them", she said. "It would have discouraged me.")

Dr. Graham says he would never have suggested Miss Hahn's ultimate project, manoeuvring a gilt-paper statue of Athena through miniature doors into the centre of the Parthenon. The job took three hours.

Dr. Graham was far from idle himself. One autumn he covered the floor of what is now the Athens Gallery with plaster casts he had brought from the British Museum. These were full-size replicas of some of the famous marble sculpture taken from the Parthenon in 1806 by the Earl of Elgin. As in the originals, arms, legs, faces, heads—even some whole figures—were missing. It was Dr. Graham's plan to restore and mount the casts high on the gallery walls so that

ISTVAN BOTAR, right, was born in Romania. As a young man he studied law, worked for a time as a journalist, earned a doctorate of economic science in Budapest, finally settled down to work as a sculptor. He spent a year in Italy on the Prix de Rome. Between the wars he built a reputation, particularly in portraiture, but this career ended when the Russians took over Romania and, in passing, destroyed all the statues in the garden of his villa.

Dr. Botar fled to Brazil, opened a ceramic studio there, and when that failed worked as designer in an electronics factory. Three years ago he came to Canada. For a time he had a job with a construction crew laying sewers in Toronto suburbs; a hernia sent him to hospital and, the day after he returned to work, he was fired. Luckily there was a junior opening at the Museum, where eventually he was assigned to the Athens Gallery.

"If I were a rich man, I'd do this for nothing," he has said. "It's the first time I've been happy in my work for 20 years."

Canadians, particularly Canadian university students, would see them as the Athenians did long, long ago.

The key artist-craftsman in the Museum's restoration of the Elgin marbles has been Dr. Istvan (Steve) Botar. First Dr. Botar spent weeks sketching the existing sculpture and adding the missing areas in red pencil. Then he began modelling. He used clay he found in front of the Museum, dug up by the subway excavation crews. It's as good as any in the world, he says.

"Filling in the gaps in the sculpture wasn't as difficult as it might appear," he explained. He pointed to an arm, broken off above the elbow: "See the biceps? By the way it's flexed, it's obvious the arm was raised and the fist clenched. Since this is a battle, presumably the fist was holding a weapon."

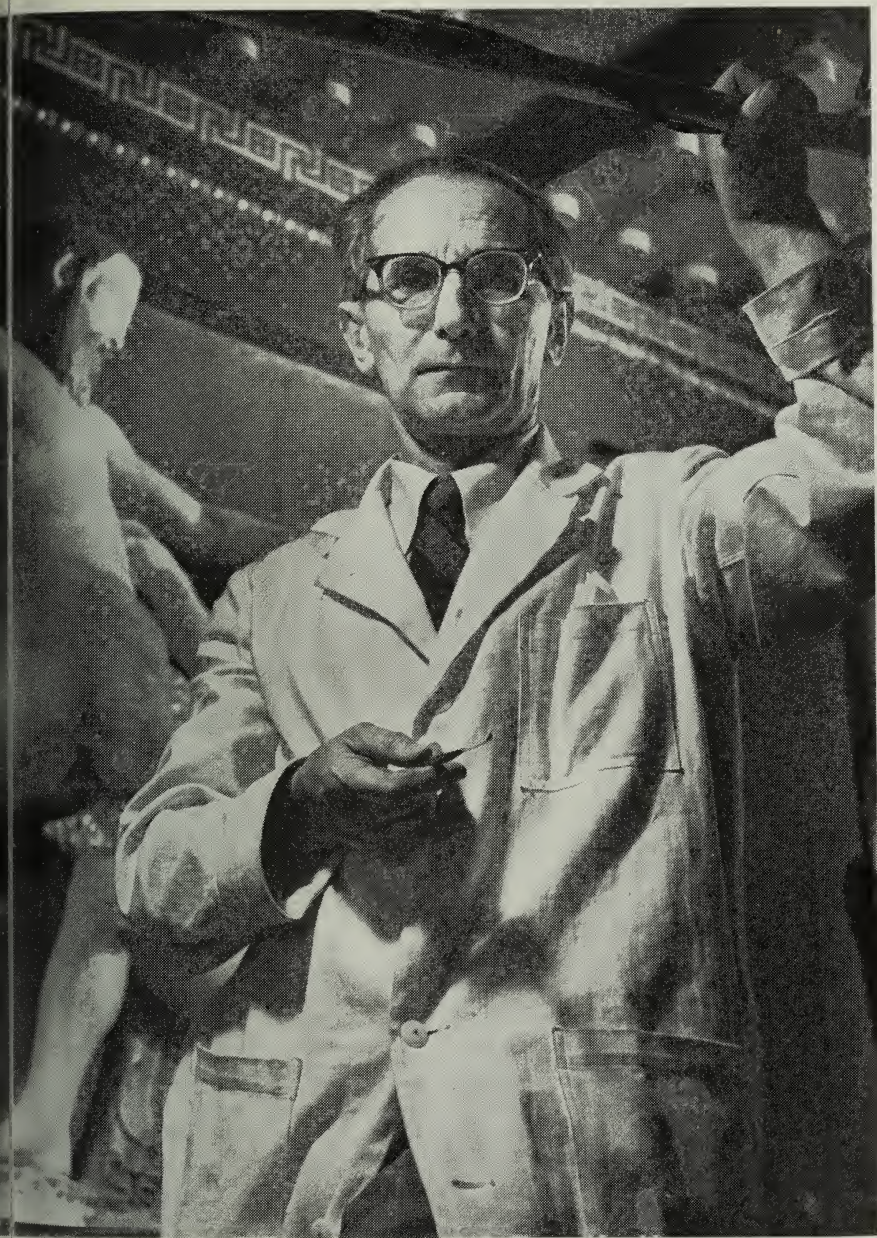
Dr. Botar's job is physically as well as artistically demanding. Dozens of times in each operation he scrambles

down from his scaffold to check perspectives from the floor.

Restoration has also meant painting the Marbles in the ancient manner, colouring clothing and hair and leaving only flesh untinted. The Parthenon's paint has long since disappeared, but 150 years ago a visiting Englishman recorded the last few traces. From these clues and his knowledge of Classical art, Dr. Graham chose the colours.

One of the great challenges was how to duplicate, at least in miniature, the statue of the goddess Athena, destroyed about fifteen centuries ago. Thirty-five feet high, sheathed in ivory and a ton of gold, the statue stood in the Parthenon. It was the pride of Athens.

Mrs. Neda Leipen, Dr. Graham's assistant curator at the Museum, agreed to do the research. Mrs. Leipen can work in French, Italian, German, Greek, English, and the Slavic languages: for the Athena assignment





NEDA LEIPEN was born in Yugoslavia, studied at the University of Zagreb, got to Canada in 1951. After 10 months in Winnipeg, she joined the R.O.M. staff. Her husband is a Viennese chemist whom she met in Canada.

In need of a research problem for an M.A. thesis, Mrs. Leipen took Dr. Graham's suggestion that it be an investigation which would give Sylvia Hahn detailed guidance for a small replica of the Pallas Athena statue which once stood in the Parthenon.

Right: Mrs. Leipen, Miss Hahn and the result of their collaboration.

Left: Dr. F. C. A. Jeanneret, the Chancellor, confers Mrs. Leipen's degree.

she used all of them. She hoped to finish the study in a year: working part-time, mostly in summer holidays, it took almost four.

Mrs. Leipen read everything she could find on the statue, from a Baedeker-style travelogue of Greece written 1,800 years ago to the most recent scholarly articles. She studied ancient copies, and fragments of copies, of the statue in stone and terracotta, carved in relief on plaques and gems, cast in metal for coins. She visited museums in Rome, Madrid, Paris and London, and collected photographs from half a dozen other centres. She studied the few reconstructions which had been attempted, including a delightful model prepared for the Paris Exposition of 1855 which depicts the goddess as a nineteenth-century Parisienne coquette.

No two copies were alike, but gradually Mrs. Leipen built up her own composite conception. For example, if a fold in Athena's gown appeared in three copies, she assumed it was in the original. Only some copies showed Athena's right hand resting on a column. Was the column in the original? For aesthetic as well as structural reasons, Mrs. Leipen decided it was.

As the details were firmed, Sylvia Hahn fitted them together in sketches, and finally in clay. The Leipen-Hahn Athena is no slim warrior maiden, but an almost plump goddess presenting victory to her people.

One of the knottiest problems was Athena's shield. Ancient texts say it was adorned with scenes from a battle between the Athenians and Amazons. From fragments and legends, and





Section of deities and citizens frieze *above* in the Athens Gallery of R.O.M. was copied from Elgin relic shown *left* and then restored to its original state.

from marble plaques shipwrecked in antiquity, Mrs. Leipen built up a list of 28 figures which showed the Amazons fighting their way up the Acropolis cliffs on one side of the shield and being cast down on the other. Then Miss Hahn took over. Moving paper cutouts around a cardboard shield, she strove to create a composition worthy of Phidias (who created the original), then modelled and cast it. Now Mrs. Leipen is preparing for her own battle when other Classical scholars study the result.

Half the ceiling of the Athens Gallery has been coffered and painted in the Parthenon style—an abstract pattern of green, white, gold and blue. Woodwork here, and throughout the gallery, is by the Museum's own

cabinet-makers. The artist was Keith Peverley, a young staff member who studied painting and gilding in England. He also painted the architectural background to the Elgin Marbles, including the imitation of the fine grey veins and delicate yellowing of the Parthenon's stonework.

About a dozen other exhibits are planned or under construction. Dr. Graham spent New Year's Day making wooden buildings for a model of the Agora, the political and social centre of Athens. It will be on the same scale as the model of the Acropolis.

And then? There will in due course be an adjoining room illustrating domestic life in classical times. Dr. Graham has already roughed out the first plan.

Women and the Hidden Persuaders

MARY QUAYLE INNIS

VASSAR COLLEGE celebrated the completion of its first hundred years with a special Convocation. The speaker was a graduate of whom Vassar is extremely and deservedly proud—Dr. Mary Bunting. As a scholar and a teacher of biology, the mother of four children and president of Radcliffe College, Dr. Bunting has achieved the modern woman's dream of home and career successfully combined.

In her address as in some of her writings she deplored what she called the waste of educated womanpower. Women with children, she said, are cut off from their professional associates and from the main stream of their scholarly or occupational interests. By the time their children attend school or finally leave home, the mothers have lost their professional connections, their knowledge may be

out of date, their enthusiasm has waned. They may spend their free middle years in restlessness and frustration.

More part-time openings for women with families should be made available, she said, with perhaps refresher courses by way of preparation. Radcliffe offers in its Institute for Independent Study a programme of half-time work for women with families who want to re-enter the fields in which they are qualified and launch new projects of their own. The plan met with a vigorous response when it was announced a year ago and is successful for the small number of women it can accommodate.

The women involved in this project are all post-doctoral scholars and Dr. Bunting's concern centers in the difficulties of educated women of middle

age. Such opportunities for them are obviously useful and might well be extended. Women are not expected, Dr. Bunting complains, to make use of their education. Their path is beset by what she aptly calls hidden dis-suaders.

When I served for years as editor of the national magazine of the YWCA it sometimes seemed that my chief function was to cross out the word "just". Nearly every biographical paragraph seemed to contain the phrase "just a housewife" or "just at home with the children". Hidden dissuading begins at home with this devaluation of a woman's most important work.

Although more women enter Arts courses every year the old plaint is still heard in dean's offices, "Arts courses don't lead to anything. What will I be trained for?" I hear too that depressing valuation of an Arts education as a badge of snobbery. "I'm leaving because the boy I'm engaged to didn't go to University. I don't want him to think that I look down on him."

Few women students enter university with a clear idea of what they want to do after they graduate. Of the few who do know what they want a proportion are prevented by their parents from taking the course of their choice. It is not at all uncommon for a woman student to go through a course forced upon her by her parents as a kind of endurance test. If at the end of it she still wants medicine or whatever it is, she may be allowed to go on to her chosen

field. Not many men are subjected to the kind of family pressure which is imposed on women. The attitude is implicit that a man's education is important, a girl's does not matter very much.

The great majority of young women are paralyzed by the tentativeness which is the curse of higher education for women. Whatever I do, is the common feeling, it will only be for a year or two. Hard upon this comes the natural corollary, if it's only for a couple of years it doesn't matter. I don't know what to take, so I'll just take—such and such. Again that diminished use of the adverb "just" to mean not "exactly" but "merely".

In spite of the number of young wives working to support their student husbands, many young women look with happy expectancy to marriage as providing at one stroke for their entire future. In this view of marriage as the final and complete solution women students ignore the domestic disasters which may make it necessary for the wife to go to work. Especially they ignore the twenty or thirty years which women live after their children have gone to school or indeed finished school and left home. These lie over the verge of a girl's horizon but they need by some means to be brought into her range of vision. What will she do with a third or a half of her life when her children have grown up and she is perhaps a widow?

There are many women for whom husband, children and home provide full and satisfying lives. These women

are fortunate. They go on as their children grow up, to work as volunteers in the Red Cross or the YWCA or some other organization which gives valuable public service, or they follow a personal hobby. Formerly most women followed this pattern—there was no other to follow—and only the rarest individual struck out for medical training or some other invasion of the world of men. Some university educated women settle comfortably into the home-and-volunteer-work category.

But beside this contented and tradition-rooted group, another body of educated women is growing in numbers. Hoping no less for marriage and children, they want something more. They want a continuing worthwhile concern, a kind of intellectual core which will be an interest while their children are small and may become a part-time or full-time activity when their children are old enough to be independent.

These young women, restless though they may be, give surprisingly little thought to the work they will undertake, even during the interval before marriage. Many come to their graduating year and even to the end of it dreading wondering, what am I going to do? The decision is often made not by choice but by default. I guess I can teach. I guess I'll take typing. No carefully thought out and steady decision has been made and jobs may be taken as they happen to offer like beads on a thread.

The number of women students in the Faculty of Arts at the University

of Toronto rises as also does the number of women in the School of Nursing and in the College of Education. Women in the School of Graduate Studies have also increased in numbers in the last few years, these also probably intent on teaching. Professional courses do not show a marked increase in the number of women enrolled. In the Faculty of Arts very few women enter science courses, mathematics, political economy or commerce. Women students take English, history and modern languages much as they did when higher education was first opened to them eighty years ago.

Although the so-called women's pages occasionally feature the career of a woman mining engineer or steeplejack, women's occupational choices are still extremely narrow. The popular picture of women forging recklessly into new and alien fields is a beguiling but erroneous one. Just as they did in 1900 women become nurses and teachers and typists. Five percent of the physicians in Canada are women and two percent of the lawyers; teaching for women is largely confined to elementary and secondary schools. Of the teaching staffs in universities and colleges in Canada eleven percent are women and three-quarters of these are below the rank of assistant professor. It is hardly necessary to make the standard comparison with the number of women doctors—75% of the profession—in Russia, in order to realize that ours are not very impressive figures.

(Continued on page 72)

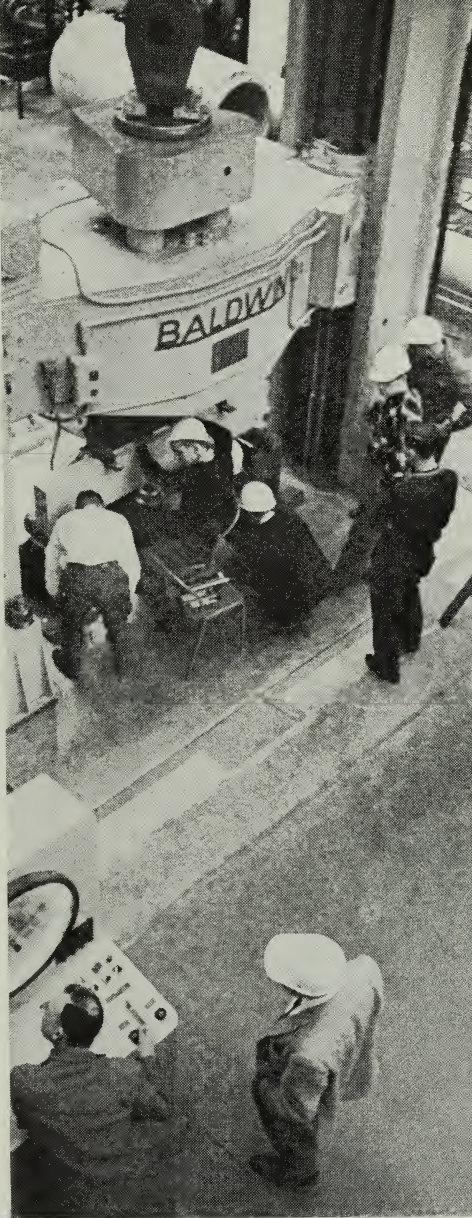
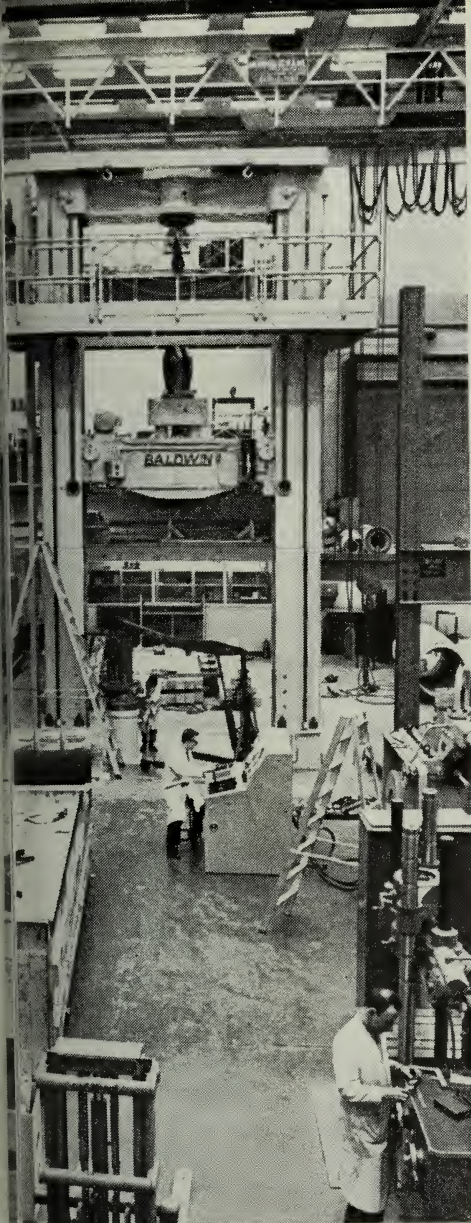


When this young Civil Engineer gets around to building a bridge it is unlikely to be carried away by its first ice-jam. He is discovering for himself the things which happen to steel and concrete under enormous pressures. Here he charts the fine cracks which first appeared in a reinforced concrete beam at 20,000 pounds. (His gauges had signalled trouble when the weight was even less.) When the load was increased to 25,000 pounds, the crack crept higher—between the “20” and the “25” at top of photograph. At 33,460 pounds, the beam broke. Good-bye, bridge!

ENGINEERS PUT ON THE PRESSURE

THE LOAD which broke the back of the six-foot reinforced concrete beam, *above*, was no more than a kiss from the giant new universal tester in the Galbraith Building. It can build up 1,200,000 pounds of pressure on a metal column 22 feet high, or put the same strain on a 10-inch steel

cable. Though used for teaching, it is primarily a research weapon, considerably bigger and three times more powerful than any machine the University of Toronto has had before. Manufacturing the 80 tons of parts took a year and, when they arrived, another month was spent putting them



Fourth-year Engineering students who conducted the experiment illustrated by the close-up on the facing page are shown (*above, right*) putting the concrete beam in place. *Left*: a section of the new testing laboratory in the Galbraith Building.



Left: Dr. R. R. McLaughlin, Dean of the Faculty of Applied Science and Engineering, in the structural testing laboratory.

together. Manoeuvring the main columns into place was a tricky operation. They weighed eight tons each.

Just how much is 1,200,000 pounds? If you were to take three of the giant Selkirk steam locomotives which used to pull freight over the Rocky Mountains, pile them one on top of another and balance the load on one small head—you would have just about the weight built up by the new tester's powerful hydraulic system. Another way to get the same effect would be to cast a block of iron $13\frac{1}{2}$ feet wide, 20 feet long and 10 feet high, the volume of a good-sized living room.

With this machine there are few substances Civil Engineering cannot at least theoretically test to the breaking point. One exception, still a laboratory innovation, is a metal whisker no thicker than a human hair; because of their exceptional purity, these approach a strength of 2,000,000 pounds per square inch.

Diamonds can withstand pressures of 600,000 pounds per square inch, common brick 10,000, high alloy steels about 400,000. On average the strength of steel for cars is 65,000.

Research projects based on the new tester can give Canadians better buildings, bridges, dams and other structures. These are improvements few people will see at once, however: one beam looks pretty much the same as another—without a tester.

The Wallberg Bequest

IF EMIL ANDREW WALLBERG or his sister, Ida Marie, had any personal connection with the University of Toronto, it has been forgotten. The Wallberg Memorial lecture, delivered this year by Dr. Omand Solandt (*overleaf*), is named after a man who graduated from two other universities and devoted his life to lone ventures in business and engineering. His sister spent most of her years in Iowa. The Wallberg bequest of \$1,000,000, when it came to the University at the bottom of the depression, was as unexpected as it was welcome.

Born in Sweden, raised and educated in the United States, Emil Wallberg decided to try his luck in Canada. That was in 1892. He built the Cape Race lighthouse in Newfoundland, financed and erected hydro-electric power lines leading into the Cobalt mining area.

Next, the Canada Wire and Cable Company, with Wallberg as president and major shareholder, began producing aluminum conductors in Toronto. By 1913 a big new factory, first in the area, was rising on Leaside's pastureland. Wallberg made shells there in World War I, later built the company into a major industry. In Quebec during the 20's, his Lake St. John Power and Paper Company opened up a thousand square miles of forest land.

Emil Wallberg died in 1929. His sister and major heir, who had moved to Toronto nine years earlier, died in 1933, leaving the bulk of her estate to the University of Toronto. This bequest of a million dollars had more than doubled by 1946. Half was applied to the Wallberg Memorial Building and interest on the remainder continues to be used for scholarships, research, equipment and the Wallberg Lectures.



EMIL WALLBERG



IDA MARIE WALLBERG

THE RESPONSIBILITIES OF ENGINEERS IN THE SPACE AGE

OMAND SOLANDT

MANY OF US will see in our lifetime the invention, perfection and final disappearance of the manned fighter aircraft. There are those who hold that the nuclear age began in 1945 and ended in 1957 when Sputnik I ushered in the space age. These three ages, which have descended upon us within fifty years, represent steps forward in scientific knowledge and in the technology that goes with it. Unfortunately, the world's most important problems are social, political and organizational.

I believe that there is still a very real possibility of a total nuclear war.

We are in the midst of a tense struggle to preserve all that mankind has painfully built up over the centuries. Time is short. Science strains the comprehension of the scientist and the engineer, and overwhelms the common man. In past generations, engineers were traditionally the builders of our civilization. Now, however, they have much broader responsibilities. It is to the engineer even more than to the scientist that the common

man looks for help in converting the advances of science into usable improvements to our way of life. More and more we must look to the engineer, with his training both in science and in its application, for competent guidance and management of the complex affairs of industry and state.

The title of this paper could have been "The Three Frontiers".

Our North American idea of the frontier carries with it the idea of endless and challenging opportunities.

If I were of university age, I think I would plan to go North, but nonetheless I have to confess that this is not the most important of Canada's frontiers.

The second frontier is the social, political and industrial organization of Canada itself. It presents much more sophisticated and complex problems.

The causes for the slow growth of secondary industry in Canada during the past five years and of the inexorable increase in unemployment are many and complex. They include the post-war disruption of world trade,

This article consists of extracts from the Wallberg Lecture delivered at the University of Toronto by Dr. Solandt, Toronto graduate, Vice-President of the C.N.R. and formerly Chairman of the Defence Research Board.

*Perhaps
they won't have to
forget university
after all*

**IS THE HIGH COST OF HIGHER
EDUCATION CLOSING THE DOOR
ON YOUR HOPES FOR YOUR
CHILDREN?**

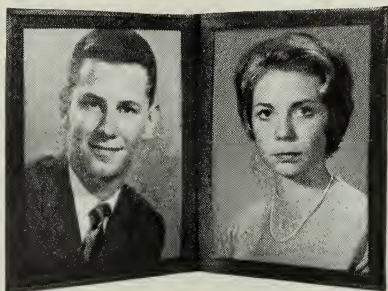
You have added up what they can earn themselves and what you can do to help. You may even be counting on a scholarship or bursary as well. Yet it's still not enough . . .

Often the extra amount you need is heartbreakingly small. Yet it is big enough to make the difference between university and—no university. And this at a time when our youth and our country both have greater need than ever for trained minds, specialized knowledge.

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MEET THIS MAJOR PROBLEM
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beyond the four-year university period. In other words, these University Tuition Loans are set up on a flexible basis, on relatively liberal terms, to permit as many people as possible to take advantage of them.

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ROYAL BANK

the growth of new competitors like Japan, the gradual evolution of the common market in Europe, and the effects of extensive foreign investment in Canada. They also include internal problems, such as the rapid growth of our welfare services and the pattern of taxation that has been devised to support them, and the effects of foreign ownership on the competitive spirit of many of our major industries. Among these is one problem that seems to me to be of great, if not dominant, importance and fortunately it is one which we can solve. This is how to effectively apply the results of scientific research to the growth of Canadian industry.

If Canadian products are to compete in world markets, they must do so either because they are of such high quality or novelty that they will sell in spite of high prices, or they must be of good quality and be sold at competitive prices because of the high productivity of Canadian labour. Both depend directly on aggressive and competent industrial research.

In terms of Gross National Product, the total expenditure on research and development in the United States is three times greater and in the United Kingdom between two and three times greater than that of Canada. United States industry performs four or five times as much research and development as Canadian industry, and the United Kingdom industry between three and four times.

I would list two principal causes for the weakness of industrial research in Canada. First, the major industries

in Canada which should be doing industrial research are American subsidiaries and get their research done for them in the United States. The second cause is a failure of industry and the National Research Council to evolve a close working relationship.

The Defence Research Board has been more successful in achieving co-operation; the Board has had money to spend. Industry is quite understandably more interested in more money for research than in being exhorted to do more.

Among the bright spots in a rather gloomy picture is the electronics industry. Here some absolutely first-class industrial research is going on, much of it in laboratories supported by companies that are wholly-owned in or controlled from the United States or Britain. This contrasts with the automobile industry which relies on research conducted outside Canada.

What we now need is an enthusiastic effort by the universities and the federal and provincial research laboratories to help industry to improve the quality and variety of its products, and the productivity of its men and machines. This movement must be matched by equal enthusiasm on the part of industry, both to accept help and to build up its own competence in applied research. It is a job that must be done mainly by engineers.

It could be argued that some of our troubles should be laid at the door of the engineers of the past, for the most part practical men so pre-occupied with building a new country that they left the important prob-

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lems of research to the long-haired scientists. The scientists have quite rightly been more concerned with expanding the frontiers of knowledge than with applying existing knowledge to increase productivity. The engineers of the future must be far more than simple builders. They have had better scientific training than their teachers received and they are well equipped to become the leaders in applied research and in management.

The defence budget should be one of the principal sources for funds to increase the technical competence of Canadian industry. The exact nature of Canada's defence contribution to NATO, NORAD and the United Nations is relatively unimportant. It is the fact that we contribute enthusiastically and efficiently that matters. Therefore, within wide limits, we are free to choose the nature of our contribution. We must make choices that will result in as much of the defence budget as possible being spent on applied research and advanced engineering with the clear-cut and avowed purpose of increasing the technical competence of industry. The desired result can be achieved by enthusiastic co-operation between the universities, various government agencies and industry.

It may well be that this co-operative effort cannot be effectively organized without setting up some new government agency to guide the growth of scientific research.

Some people regard the third frontier as merely the boundary between

peace and war. Others see it as the boundary between health and plenty on one side, and famine and disease on the other, or the line that divides the "haves" from the "have-nots". I see this frontier as one which bounds the areas in which man has achieved peaceful solutions to the problems of living together.

While I hope that a few of those now studying to become engineers will make careers as politicians, diplomats or statesmen, I am sure that many more will find satisfaction in helping to stamp out starvation and misery in under-developed countries. Agricultural techniques can enable man to grow enough food to give abundance to the entire population of the world today and for some years to come. There are good grounds for hope that before the population explosion outruns the possible food supply, means will be found to control population.

The growing urge of the western nations to try to raise the standard of living in the under-developed countries should certainly be encouraged. However, wealth is not a guarantee of personal success and happiness for either an individual or a nation. People who refuse to accept colour television, two cars in every garage, and a swimming pool in every backyard as the highest aspirations of the human spirit are not necessarily our enemies. They may have found a better and more satisfying set of values and we should seek to learn from them.

I have often wondered also if we might not find some common ground

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with the Russians in our desire to help under-developed countries. The Russians share our preoccupation with the material things of life. They also strive to raise the standard of living of the masses, even though there seems to be a tendency to view them as statistics rather than people. There is a definite possibility that in time we may find ourselves allied with the Russians in a struggle between the "haves" and the "have-nots". Possibly we could find common cause in seeking to convert the "have-nots" to "haves" before a real struggle begins.

There are good reasons to single out the engineer and assign to him very special responsibilities in our efforts to achieve an orderly world. Consider this reasoning by Eric Walker, President of Pennsylvania State University:

"Engineering is the profession in which knowledge . . . is applied with judgment . . . for the progressive well-being of mankind. The phrases 'with judgment' and 'progressive well-being of mankind' involve more than know-how, more than craftsmanship. They involve value judgments. They involve social decisions. They involve leadership in what *should* be done as well as in what *could* be done. They involve moral responsibility—a moral responsibility for the direction taken by our civilization and for the sort of lives we live in it."

This responsibility is an inescapable obligation passed on to today's engineers by their predecessors. The professional obligations that the current graduating classes have freely accepted

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make it essential that their first concern must always be to use their knowledge and experience for the welfare of all rather than primarily for their personal gain. It is the ready acceptance of this obligation that distinguishes the professional man.

The problems in maintaining these high ideals have become more difficult. There seems to have been a change in our national sense of values. Dedication to professional achievement is now less highly esteemed than it was, and wealth is often regarded as the only true measure of success. In addition, it is becoming increasingly difficult to keep abreast of scientific and technical advances even in a limited part of the engineering profession. There was a time within living memory when an engineer could successfully practice for a whole lifetime using little but the knowledge acquired in university. Now the science and engineering acquired at university may well be out of date within five years. Therefore, those who hope to be successful as engineers, both professionally and financially, must plan to devote at least part of their time to study.

The third frontier must be pushed back very rapidly. Inspired leadership will be needed and some engineers must come forward to help supply this leadership.

I think that young engineers in Canada are starting with a greater chance for personal success and happiness, and for satisfying and effective service to mankind than any other group in the world.



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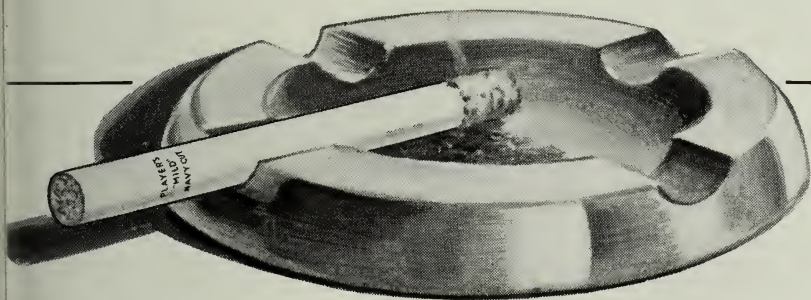
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ACHIEVEMENTS*(Continued from page 37)*

more deaths than the enemy. It is carried by lice. In 1938, research was spurred by discovery that the typhus organism would multiply in fertile hen's eggs. Following this lead, Connaught researchers developed their own methods of culturing and purification. The Laboratories produced a million doses of typhus vaccine a month for the Canadian armed forces. In 1943 came a new challenge—penicillin. At first penicillin was grown in milk bottles. Later, it was harvested from huge tanks.

Veterinary Studies

There is a close relationship between diseases in man and animals—especially in the increasingly important virus field. Connaught is producing piglets free of rhinitis and virus pneumonia. From them it is hoped to develop Canadian herds which won't be plagued by these common and costly diseases. Cattle must be vaccinated against brucella. Up to now the vaccine has been made from organisms grown in bottles. With a new machine being tested at Connaught, it is hoped that the organisms can be fed mechanically and thus supply an uninterrupted flow of vaccine. If this works, the principle may have wide application.

The War on Polio

Almost all the virus processed into vaccine for the large-scale United States tests of 1954 was produced at Connaught Laboratories. They have been the main source in supplying Salk vaccine for Canada. Now the

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laboratories are working strenuously on the Sabine live-virus oral preventive against polio. Large-scale tests have been carried out in Saskatchewan, Nova Scotia and Manitoba. Results are still being evaluated but are said to be good. Under test, too, is a new rabies vaccine to replace the old Pasteur-type virus which sometime causes severe reactions.

Blood Products

Since the end of the war three new human blood groups have been found by research workers at Connaught. In use around the world is a method they have introduced for separating and identifying proteins. Much work is being done with fibrinogen, the natural substance in blood that causes clotting, and with gamma globulin, another blood fraction: it contains all the known antibodies of the blood. Albumin has been introduced to replace dried plasma—smaller quantities are needed and it is free from the risk of pollution by infectious hepatitis, which was a serious problem for the U.S. army in Korea. Few research areas are more provocative than blood proteins. For example, Connaught medical scientists have found one that can dissolve clots. If this can be produced in sufficient volume, it could be of great value in the treatment of coronary thrombosis, strokes, and some types of senility.

Without fanfare, the work goes on: Connaught has never sought the limelight. Throughout Canada and the world, thousands of people who owe their lives to the Laboratories may or may not know that they even exist.



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HIDDEN PERSUADERS

(Continued from page 53)

Traditional attitudes change very slowly but perhaps they will change at an accelerated rate in the forcing house of today's permanent crisis. They have changed already as is evidenced by the fact that more than half the working women in Canada are married. Refresher courses for women scholars can help to release and use their ability and experience. Perhaps professional training needs more breadth and flexibility. Women are parents, citizens and responsible human beings as well as workers in a specific field.

Young women must realize more clearly than they do that education broadens and enriches their lives and that if anyone needs liberation and depth of mind it is precisely those who most closely influence children. When young women can see a university education as a source of discipline and enrichment for their whole lives and not as a filler-in between high school and marriage or as a species of job training then they will take much more seriously the assessment of their own abilities and interests and the choice of courses which fulfil their needs.

Farther reaching improvements in the prospects for educated women will come only if they want greater opportunities and only by means of a general easing and broadening of the view of women's place in the world. Society expects too little of educated women and educated women expect too little of themselves.

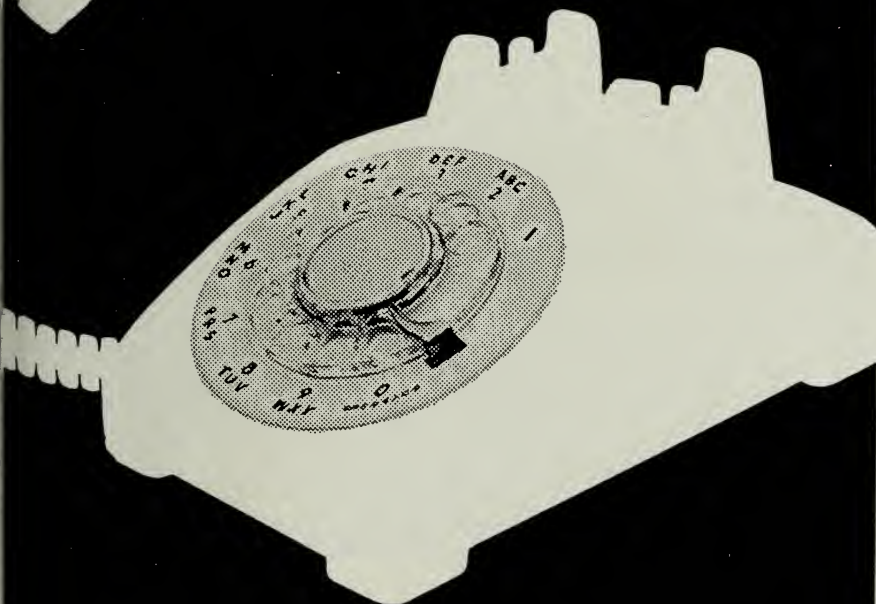




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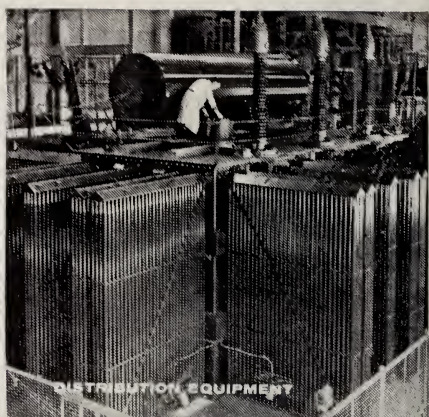
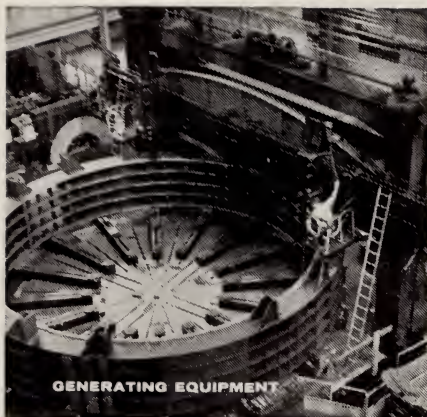
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A Nigerian who has graduated in Medicine and a Geology graduate student from Ghana with the Director of University Extension before he leaves on visit to their countries (See "Assignment Africa" which begins on page 23)



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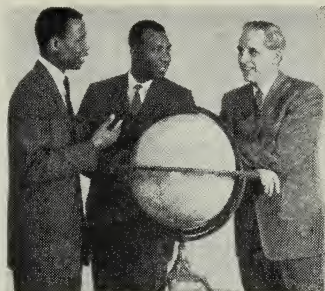
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Volume Nine

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COVER: Dr. Taiwu Daramola, of Nigeria, president, and Michael Mensah, Ghana, the past-president of U of T African Students Association, with Dr. D. C. Williams. Photograph by Ken Bell.

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Most of Mrs. Wino Ferguson's achievements are unsung—e.g., editing *Staff Bulletin*, maintaining a steady flow of illustrations for *Varsity News* and VARSITY GRADUATE. For this issue, however, she has forsaken her anonymity long enough to sign the story on page 62.

We have printed many articles by Ian Montagnes about exciting and significant projects within the University. As a change of pace for this issue, he has gone off campus to reduce a national problem to very human terms. (See page 68)

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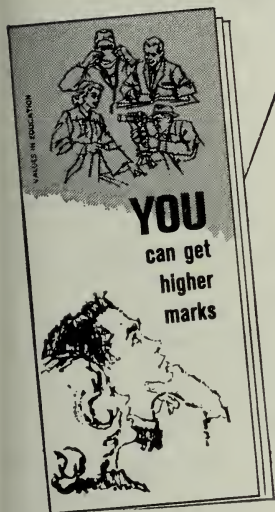
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In the Department of Industrial Engineering, men, machines, increased productivity and lower costs are seen in an all-embracing perspective

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A NEW KIND of engineer is being educated at University of Toronto in the Commonwealth's first department of industrial engineering.

As Professor Arthur Porter—head of the department—sees it, industrial engineering is a scientific attempt to harness technology for the benefit of people. The classical engineer works with components: the industrial engineer is concerned with entire systems, including the men and women who operate them. It is an approach, he believes, suitable for business as well as industry, for universities and hospitals, anywhere that people live and work with machines.

Professor Porter believes his graduates can be the catalysts and communication centres of their organizations, linking the various divisions for increased efficiency. To do this they will need some understanding of man, of modern technology, of the scien-

tific approach to organization (which is the basis of operational research), of business techniques, of the problems of management and labour, economists, researchers and technologists.

Preparation for such a role will take more than four years. Industrial engineering is primarily an undergraduate engineering course with special emphasis on mathematics, operational research, data processing and control theory. Also offered are introductions to organizational structure, financial control and industrial psychology "because you can't talk about machines without knowing something about the men and companies operating them". But further study of these fields is left for post-graduate work.

In his inaugural lecture, Professor Porter described industrial engineering as the key to increased and more economical productivity. Some other

FOR HIS MASTER'S DEGREE in physics, Arthur Porter helped to build Europe's first computer. For his doctorate, he worked in the new field of automatic control equipment. A few years later, when the second world war broke out, he was on a five-man British team which founded the science of operational research. In the post-war exploratory years of electronic computers, he was research chief of the company which built the University of Toronto's pioneer model.

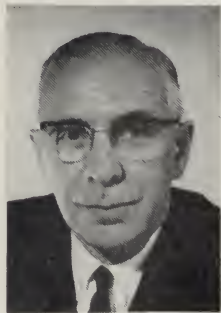
His appointment as head of the department of industrial engineering at the University of Toronto last fall completed an unusual academic hat trick: this is the third new department he has headed in as many universities. (The others were in instrument technology at the Royal Military College of Science, England, and in light electrical engineering, at the University of London.) To come to Toronto, he resigned as Dean of Engineering at the University of Saskatchewan and, at the last minute, turned down a senior U.S. academic post.



Along with physics and engineering (he wears an iron ring from Saskatchewan), Dr. Porter has many other interests. He might have become an historian had he been better at French and Latin. He is keenly interested in psychology, particularly as it applies to learning, for machines now learn and men must learn to operate them. He is intrigued by medicine, suggesting experiments and even following surgeons into the operating rooms in his fascination with the human system which is so much more complex than any man can design or build. At Toronto, Dr. Porter's challenge is to develop young engineers with interests as broad as his own.

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Porter predictions on the future of industrial engineering:

Medicine: Doctors and engineers are working on the use of computers for diagnosis, but this is in a primary stage. In time a computer may be able to report the best anaesthetic for a given situation. The next big step forward in the new medical-engineering partnership likely will be increasingly detailed analysis of electroencephalograms—the tracing of minute brain currents—using engineering knowledge of electronic communication systems. Industrial engineers may also be able to suggest relief for nervous diseases by drawing analogies from automatic control systems. (Parkinson's disease, the "shaking palsy" in engineering terms appears to be a problem of instability control caused by feedback in the neural currents, which can be relieved surgically by cutting the feedback loop.)

Business: Because industrial engineering is largely a method of thinking—the scientific approach encompassing all divisions of an organization—it could be applied equally well to production of any sort, marketing, clerical operations and management organization.

Agriculture: Problems of diversification, crops and livestock, irrigation, new approaches to disease, materials handling, are all parts of a system. If our basic industry is to be strengthened there must be some general plan for its development. Agriculture may not be as amenable to planning as other areas of the economy—experiments in Russia seem to indicate this—but it



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Automation: Adjustment to automation will always lag because we can't foretell accurately what will happen in ten years. One thing we can do is give the man in charge of an automatic machine enough work—even if some of it is not necessary—to make him feel a vital part of the operation. From his knowledge of psychology, organization and technology, the industrial engineer is the logical person to tackle this problem.

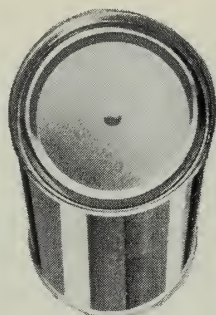
"There is nothing new about automation," Professor Porter remarked recently. "It has been going on for thousands of years. After all, the man who invented the wheel relieved his fellows of carrying loads. The most significant difference is its encroachment on the human brain. Now machines are doing very elementary brain work. Man could do it—but what a waste of man!"

As a leader in the world of increasing automation and computers, Professor Porter has no fear for humanity. "No matter how intelligent machines become—even a thousand years from now—there will always be decisions they will not be able to make," he said. "There will always be other factors which are completely human, like the flash of recognition by which a businessman decides on policy from the passing expression on a politician's face. Beside the conditioned thinking of a highly trained human being, the most intelligent computer is nothing but a clumsy tool, a saw or hammer."

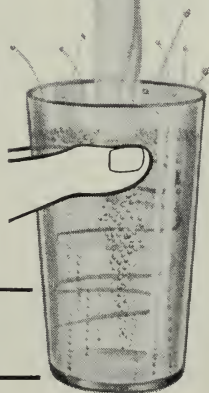
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VARSIITY GRADUATE

The Registrar's mail is heavy after
he writes to the Class of '52

The Meaning of the University to 10-Year Graduates

MORE THAN HALF of the fulltime Artsmen and Engineers who graduated ten years ago have taken stock of their situations and reported back to the Registrar of the University. In seeking these confidences, the Registrar's first interest was in the role the University has played in shaping their lives thus far, "What," he asked them, "would you consider the most important rewards of your University years?"

First choices of 82 per cent of respondents were (in this order):

Direction for a richer cultural life;

Study habits which have been applied to my career;

Greater earning power;

Self-discipline.

Only a handful mentioned technical training for a specific career as a reward and, of these, only four gave it priority. Across the board, the results of the Registrar's inquiry showed that the teaching staff of the University is succeeding in what it considers its primary function: education of the whole man.

Dr. Ben Schlesinger of the School of Social Work helped Registrar Robin Ross to design the questionnaire. When the completed forms were returned, Information Officer Ian Montagnes and Gordon Grant,

*Exercising
the graduate's
right to dissent*

head of the Tabulating Centre joined the team to help co-relate the results.

The study was confined to the 1,050 male fulltime students awarded the B.A., B.Comm. or B.A.Sc. in 1952. Of these, 536 replied—a fabulous response as surveys go. But perhaps the comparison of an exchange of letters and a professional poll is not a fair one.

Three graduates did not like the questions. One wrote: "The majority of questions herein are trite, virtually meaningless, and can in no way give any semblance of a portrait of the Class of 5T2. Questions as to the participation of the graduate in the life of his community or country at large, e.g. political, religious, social work, have been ignored, and most of all evidences of scholarship or achievement have been avoided."

A second replied: "Apparently the question regards the university as some sort of a club directed mainly towards a successful social and monetary career."

Asked the third: "Are these what the University considers its functions? I hope not! He suggested that the reward "enrichment of the mind" should cover everything.

A B.A. who went on to divinity school and is now a clergyman wrote: "I became a Christian through Varsity Christian Fellowship."

A South American wrote: "The University allowed me to know Canada, democracy, and the way people live".

A number listed confidence as the chief reward: "Confidence in one's ability to tackle a problem and solve it"—"Confidence and independence"—"Self-confidence in the business world"—"Knowledge I could take on a challenge, see it through and succeed".

Wrote one: "Critical analysis of my own beliefs and points of view and an increased ability to understand and accept other people"

*The reward
of self-confidence*

PRIZE-WINNING PHOTOGRAPH



BOB LANSDALE'S photograph of a Varsity torch-bearer won the cup for the best publicity picture in the 15th annual print show sponsored by the Commercial and Press Photographers Association of Canada. He used two negatives, one of them exposed in sections, and worked more magic in his darkroom. The photo was taken for *Varsity News* at the Blue and White Winter Carnival.

In this issue Bob Lansdale has pictures on pages 17, 18, 20, 23, 39, 42, 44, 45, 46, 47, 48, 49, 55, 62, 63, and 73 (bottom).

The excellent photographers in the Tanganyika Information Services took the pictures on 31, 32, 33, 34, 35, 36, and 37.

Other credits: Page 6, Eric Trussler; 64, Don McKague, 68; Ian Montagnes; 73, Gaby of Montreal.

*"I learned to think
for myself"*

*They marry
and stay married*

*Education remains
a way of life*

ideas". Commented another: "Life in a university residence taught me tolerance and respect for the ideas of others".

Six first choices were: "The ability to think"—"Maturity in thinking"—"Formulation of a personal philosophy, and development of strength to accept it and live with its terms"—"Broader appreciation of life"—"Background for living a fuller, more intense and interesting life in every way—not just cultural"—"I grew up and learned to think for myself".

Wives were listed as the principal reward by several respondents. Seven out of eight who replied are married—one in every five to a Varsity alumna.

Replies came from only three divorced men, an average of one divorce for 155 marriages. The national rate is one for 22, and the U.S. rate one for four. One may only guess whether information from those who did not reply to the Registrar would significantly change the Class average.

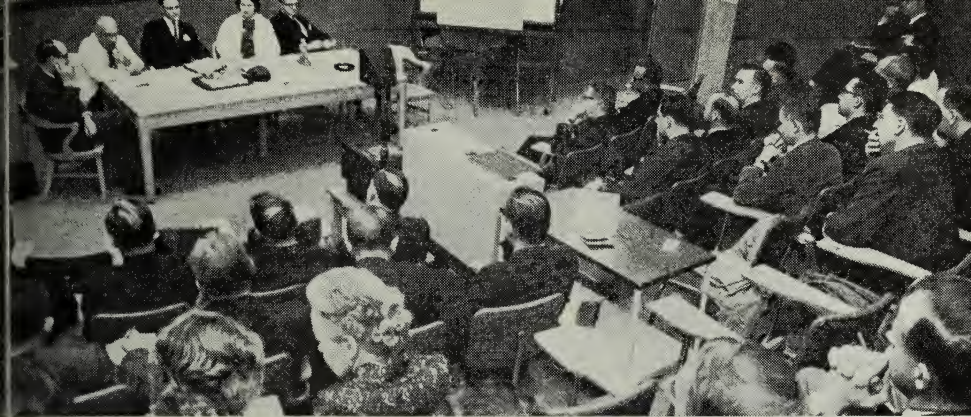
Of the heads of families reporting, 17 per cent had one child, 60 per cent either two or three, and 10 per cent more than three.

Sixty-five percent of respondents reported incomes between seven and 12 thousand dollars. Fourteen per cent said they made more. Sixty-six per cent own their own homes.

For most of the Men of '52, education did not end with a Bachelor's degree. Fourteen per cent now have their Master's and another three per cent are Ph.D.'s. Among the 43 per cent who have taken other courses, many have earned diplomas or certificates.

About 45 per cent of the Class live in Metropolitan Toronto and 10 per cent in villages or rural areas. Of the nine per cent who are now in the United States, some were born there and came to Canada only for the education.

KS



EYE SPECIALISTS FROM ACROSS THE COUNTRY AT APRIL REFRESHER COURSE

Varsity's thousand hours of post-graduate instruction each year are helping doctors to keep abreast of trends and discoveries

The M.D.'s Race with Medical Science

RONALD KENYON

DURING the 20th century the yeast of new knowledge has caused a ferment in the medical profession. More progress has been made in treating disease in this century than in all the rest of mankind's history put together.

Every year now thousands of medical journals print hundreds of thousands of research papers, drug

companies produce hundreds of new pharmaceuticals, advanced surgical techniques arise and medical methods are introduced that would have been revolutionary a few years ago.

Many a bubble bursts, of course. Some techniques, some drugs are found wanting, and are abandoned. But others stay, to bring about a lasting change in the practice of medicine.

There was a time when a doctor, once he graduated, was considered to have pretty well finished his educa-

Ronald Kenyon (Writers of Canada) has written on science for many magazines.



DR. J. C. MCCULLOCH

DR. A. G. DEVOE

MR. P. D. TREVOR ROPER

THE EYE OF THE ARTIST

WHEN HOLBEIN painted Henry VIII so squat and broad he may not have been intentionally rude after all. Mr. Patrick D. Trevor Roper, the British eye surgeon, suggests that it was a simple case of astigmatism. Mr. Trevor Roper told specialists attending the April eye surgery refresher course that he had rephotographed the painting with a lens which corrects astigmatism and Henry took on what we believe to have been his normal proportions.

El Greco must have had astigmatism, too, the surgeon said. Not only were his figures too broad but "the cast in an El Greco always appears to be sliding off to the right".

Renoir? He was short-sighted. Rembrandt and Titian? Both long-sighted. Whistler? Probably colour-blind.

There may be a simple explanation for Turner's gradual shift from cold colours to excesses of reds and yellows. One of Mr. Trevor Roper's patients, whose style was "late Turner" when she had a red eye cataract, changed to "early Turner" after the cataract was removed.

Must one have an eye defect to become a good artist? "I suggest," said Mr. Trevor Roper, "that if you want to become an impressionist, a little myopia helps."

tion. He would continue learning by reading, by studying his own cases and by conversation with other doctors. But his formal training was over.

No such attitude is possible today. As Dr. John D. Hamilton, Toronto's Dean of Medicine, said recently: "The advance of medical science has been so rapid and on such a broad front, and the number of publications is so great that no man can read them all, even in a narrow field."

To cope with this problem, many busy doctors are returning to university for the refresher courses which have been growing in number and variety since World War II.

"He (the doctor) takes time away from his practice for study because he realizes that he is responsible for the health and lives of his patients," said Dr. R. Ian Macdonald, director of the Division of Postgraduate Medical Education of the University of Toronto.

"He is extending his education not necessarily to secure a degree or a diploma or to obtain any prestige or financial advantage."

The most recent example of such a course is the Eye Surgery Clinical Meeting held at University of Toronto for three days in April. Forty-four doctors from all over Canada left their practices to attend three symposia which covered respectively eye injuries, squints and glaucoma. In addition they were able to watch any of fifty operations on eyes performed in five Toronto hospitals.

Two guest eye surgeons were brought in: Mr. Patrick D. Trevor

Roper, of London, and Dr. Arthur G. DeVoe, New York.

What was learned?

An opinion of the organizer of the meeting, Dr. J. C. McCulloch, head of the eye department at University of Toronto: "The doctors saw operations carried out. These were not necessarily unusual or brand-new procedures. In fact, many were operations that the doctors would be doing themselves. We believe people learn by watching others—learn different techniques and make comparisons with their own ways of doing things."

An opinion of a doctor who attended, Dr. J. E. Pyper, of Stratford, Ontario: "I never miss these meetings because they give me a chance to get together with other men in my field and see what they are doing. I am the only specialist in my field in Stratford and sometimes I feel pretty isolated unless I get a chance to come to meetings like this."

Why were the three particular subjects chosen for seminars?

Injuries to the eye, especially in children, are common and can be difficult to treat. All too often results of surgery are disappointing. For this reason, every improvement in technique is important.

Squints, especially the up-and-down type, require more than usually difficult surgery and are, similarly, of great interest.

Glaucoma, a disease which causes a narrowing of the field of vision, is on the increase in Canada. It is caused by pressure inside the eyeball and is the commonest cause of blind-



At a dinner for those attending the April eye surgery refresher course, Lt.-Col. E. A. Baker, the managing director for Canadian National Institute for the Blind, presented research microscopes worth \$4,400 to the University's eye pathology lab. Here the Dean of Medicine, Dr. J. D. Hamilton, *left*, is seen accepting the C.N.I.B. gift.

ness in people over 40. At present, it is estimated that up to 10,000 people in Toronto have glaucoma.

Recently, there have been some significant advances in treatment of the disease. Injection of urea was one of the subjects discussed. Urea injected intramuscularly, causes a sharp drop in the pressure in the eye. This may be only temporary but it enables surgeons to operate where they might not previously have been able to. Mr. Trevor Roper noted that some newer drugs than urea may prove even more effective.

Dr. DeVoe gave a presentation on herpes simplex in the eye. Herpes

simplex is the virus which causes the common cold sore on the lip. When it infects the eye it is much more serious. If untreated it takes up to three months to clear up and leaves permanent scarring of the cornea. Dr. DeVoe told of early treatment—removing upper layers of skin from the eye and later treatment by corneal transplant.

Like glaucoma, herpes simplex infection of the eye appears to be increasing.

Back in 1946, the University of Toronto had only sporadic courses of this type in the medical faculty. It was apparent that doctors who had

been serving in the armed forces, would need some type of refresher course training before they returned to civil life. Valuable though their wartime experience might have been, the methods and techniques would not be the same in civilian life. Nor would the problems be identical. Very few front-line doctors are called upon to treat either the very young or the very old.

At first it was by no means certain that the postgraduate course given by the University of Toronto medical school would be repeated in subsequent years. But the experience with returning doctors and the discovery that refresher courses were welcomed by doctors in civil practice were decisive. In 1950, Dr. R. C. Dickson was appointed the Director of Postgraduate Studies and during the next five years the courses grew steadily.

A lecture series for internes registered as postgraduate students was started and the Faculty of Medicine co-operated with the University of Toronto Medical Alumni in offering a yearly postgraduate course as well as other postgraduate courses for doctors in practice, both general and special.

In 1951, the help of the Kellogg Foundation made it possible to establish travelling clinics. This Kellogg Foundation support continued until 1956, when other sources of financial aid were found.

By the beginning of 1956, when Dr. Dickson resigned to assume the Chair of Medicine at Dalhousie University, the Division of Postgraduate

Medical Education had been formed. The Division is controlled through heads of departments, reporting to the Faculty Council.

Carefully chosen and provided across a broad range of subjects, these courses help the busy doctor cull out the most useful new developments. He can and does still read the literature, go to conventions, study his own cases and exchange notes with other doctors. But, in addition, the new courses give him the best thinking of faculty members.

As a corollary of helping the practising doctor, the courses have another important function: they speed up the process by which useful discoveries are put into effect in communities across the country. For many years after the discovery of Insulin in 1921, some doctors did not fully understand the finer points of its use.

The courses also help the profession to adapt to new needs. A doctor trained 25 years ago did not need to know nearly as much about diseases of the aged as he should today. People are living longer now; there are many more old people to care for.

The courses impose a considerable strain on the teaching staff of the faculty. Last year 14 courses were given, with teaching hours totalling just short of 1,000—about the equivalent of adding another whole year at the undergraduate level.

The most ambitious single course is the annual 6-week graduate course for specialists. Many doctors enrol in this course to complete their training

in a specialty and then take the examinations of the Royal College of Physicians and Surgeons.

The course begins in mid-August each year and consists of at least 15 lectures a week in each specialty, plus group teaching in clinics. Specialties taught include obstetrics and gynecology, general medicine and general surgery. Some of the lectures are common to all three specialties and are given to the whole group. Then the students divide up for lectures in their particular fields.

Other courses given annually at the University of Toronto are eye surgery and fractures.

Perhaps the most interesting (at least to the layman) work of the Division is its travelling clinics. Paid teachers of the University travel in groups of two or three around the province, giving clinics at the request of county medical societies. Last year, these clinics accounted for 46 teaching days and were held as far away as Fort William in the north, Sault Ste. Marie in the west and Welland in the south.

Yet another function of the Division is to bring in visiting lecturers. Between September, 1960 and June of last year, 17 recognized authorities were brought from Europe and the United States to lecture at the University.

So far, most courses of the Division have been oversubscribed—striking evidence of the good use the profession is making of them.

One travelling clinic which visited Northern Ontario on a particularly

blustery day when the temperature was 20 below zero was startled to discover that every doctor in the district had attended the clinic—except one. He was sick in bed. The doctors who could do so attended to their patients during the lunch hour and in the evening. Those who came from a distance took a chance on being called back to their practices if needed.

Nor are these travelling clinics beneficial to the local doctors only. The University teachers gain a great deal too. They see and meet practising physicians around the country and can assess the results of their undergraduate teaching as it is applied in practice.

One theory that has often been disproved at these clinics is the one about older doctors all being behind the times. One elderly doctor who presented a case, said he regretted that the way he did it might not come up to modern university standards.

“Actually,” said a University of Toronto staff member later, “it was one of the most beautifully presented cases I have ever seen.”

Some of the staff people who move about with the travelling clinics gain experience which would be denied to them in Toronto.

“In Toronto we seldom encounter trichinosis (a disease which can result from eating improperly cooked pork)” said one lecturer, “but in some areas of Northern Ontario there is a good deal of it. Doctors in one city asked our opinion about this disease. I said: ‘You tell us’—and they did.”



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ASSIGNMENT AFRICA



POLITICAL ECONOMISTS HOOD, HARTLE, EAYRS

MUST WHITE impose his will on Black?—or Black impose his will on White—or is there a formula for a united effort?

Must money needed for new industries be spent on schools?—or do the schools wait, delaying the stream of educated people, indispensable to economic health?

How will new colleges get administrators, teachers, and visiting lecturers? Where will the books come from? Can the adults be taught along with their children?

The story of how Varsity's President, the six men shown here, and other Toronto staff people have joined the attack on these tremendous problems of Africa follows. . . .

Across the waist of Africa—from Freetown on the west coast to Dar es Salaam on the east—professors from Toronto are helping emerging nations to build their futures

The University

PROFESSOR D. CARLTON WILLIAMS returned to Toronto from Africa in February with some firm ideas about how our universities can do more for African higher education. He particularly favours the pairing-off system under which a North American university takes a special interest in one African institution. This attitude was confirmed when he visited Dar es Salaam where the University of Toronto has close ties with the University College of Tanganyika.

¶Toronto's President Claude Bissell is on the Council of the University College which opened its doors last autumn. He will be in Dar es Salaam for a Council meeting in June.

¶Principal of the College is Professor Cranford Pratt who left the Toronto staff with assurance that he could return at any time within five years without loss of seniority.

¶Dean of Law A. B. Weston also is from the Toronto staff.

¶Shortly after Professor Williams left Dar es Salaam for home, Toronto Professor J. G. Eayrs arrived there to lecture.

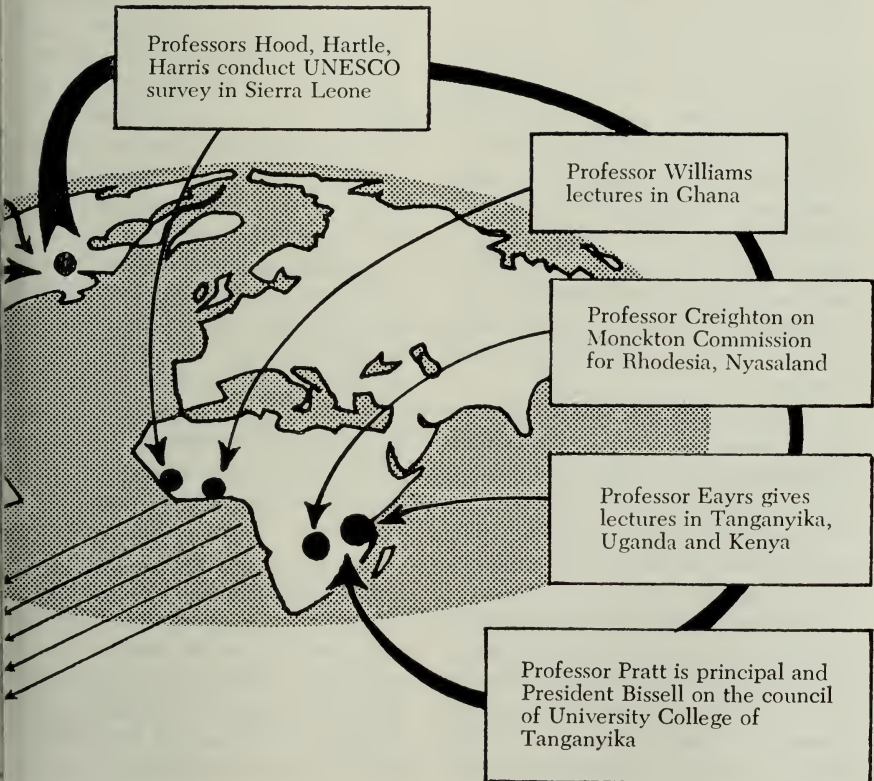
Professor Eayrs also gave a lecture at Royal College in Nairobi, Kenya, and a series of ten at Makerere University in Uganda. At Makerere he developed the theme that no nation can be exempt from the normal rules of power politics—a concept which provoked vigorous discussion with African students. His trip sponsored by the Rockefeller Foundation, he lived in a Makerere student residence for a month.

Professor Williams' trip was sponsored by the Carnegie Corporation. At the turn of the year, he and nine other

UN
OF

93 students
are enrolled
this year. Re
are Kenya, E
Rhodesias, In
Ghana, Nige
Sierra Leone
and South A

links with Africa



Professors Hood, Hartle,
Harris conduct UNESCO
survey in Sierra Leone

Professor Williams
lectures in Ghana

Professor Creighton on
Monckton Commission
for Rhodesia, Nyasaland

Professor Eayrs gives
lectures in Tanganyika,
Uganda and Kenya

Professor Pratt is principal and
President Bissell on the council
of University College of
Tanganyika

North American university extension directors were flown to Ghana to meet with 13 of their African opposite numbers. This conference was held under the joint auspices of the University of Ghana and the International Congress of University Adult Education. Professor Williams also lectured at the 13th annual New Year's School of the University of Ghana. His adult audience of 300 included teachers, businessmen, civil servants, and community leaders.

Professor Williams stresses Africa's great need for books. Libraries and individuals here could ship tons of surplus volumes he said.

In this area of aid to Africa, Marsh Jeanneret, Director of the University of Toronto Press, is working with his opposite numbers at Yale, Chicago, Rutgers and Johns Hopkins on a proposed plan of action for the fifty-odd institutions in the Association of American University Presses. He is also arranging direct shipment of some University of Toronto books to a number of African universities before autumn.

A pioneer in educational television and Chairman of the Metropolitan Educational Television Association of Toronto, Professor Williams believes this medium would help Africa to compensate for its teacher shortage. He sees possibilities in radio, too.

Another suggestion would result in North American universities sponsoring tours of duty by staff members who would strengthen the existing system of adult education in those African countries with British connec-

tions. This is the successful network of resident tutors who are stationed in larger villages and work with extension students in the evening. Canadians and Americans willing to sign on as tutors would volunteer for a year or even two.

Professor Williams' final proposal would result in African university extension directors being brought to North America to study how degree-credit courses work. The lack of correspondence courses or any part-time credit courses are anomalies among countries where great need is education for the generation which has so recently won its independence. The staggering illiteracy rates, estimated up to 80 or 90 per cent, pose a problem of the greatest urgency. The African extension directors see great possibilities in this North American way of doing things and are eager to learn more about it.

Another anomaly is the University of Ghana itself. Professor Williams calls it a little bit of Oxford, the most beautiful campus he has ever seen. About 23 million dollars have been spent on its grounds and the building along its sloping mile-long esplanade. This inheritance from the former British regime was planned for the education of a small corps of Ghanaian leaders. It can accommodate about 700 students.

At Tsito, Ghana, Professor Williams saw the year-round centre for adult education which gets much support from Denmark. On visits to other villages in Ghana and in Nigeria he sat in on evening classes.

Professors Hood, Harris and Hartle in Sierra Leone

TWO RELATED PROBLEMS confront many of Africa's new nations. The first is how to establish a sound national economy. The second is how to establish a sound system of education. Energies and resources given to one are denied the other. Yet, success in each area depends in large measure on success in the other. The challenge, then, is to decide on priorities which will prove of maximum benefit both intellectually and financially in the shortest possible time.

Three University of Toronto professors have given these problems intense study in Sierra Leone, a poor country with ambitious plans for education. Two are economists: Professors William Hood and D. G. Hartle of the department of political economy. The third, Professor Robin Harris, is in the University College department of English, a trustee of the Toronto Board of Education and an active worker in education at all levels. They spent almost three months in Sierra Leone on assignment for the United Nations Education, Scientific and Cultural Organization. In late April it was expected that their report would soon be published.

Most of the people in Sierra Leone scrape a living from subsistence farming. The main exports are iron ore from a mine which may last another 25 years and diamonds from which the government gets most of its revenue. The civil service is having growing pains. The target is free primary

education for all and more secondary and vocational schools by 1975.

"The country needs tractors, trucks and power stations," said Professor Hood. "But to be used they must be understood. Understanding requires education. To build a school, villagers must take time from their crops and use materials which are in demand for housing."

Seeking facts which could be used to help Sierra Leone chart its best course, the three professors saw a lot of the country including Fourah Bay College, oldest in West Africa, and schools in Freetown and in the hills behind the capital.

Professor Hood, raised in Yarmouth, met many "Nova Scotians". In August, 1791, twelve hundred freed Negro slaves sailed from Halifax to find homes in Africa. Next spring their vessel—"The Ark"—entered one of the world's finest harbors: there they founded Freetown. The ex-slaves' descendants, the Mayflower class of Sierra Leone, still call themselves Nova Scotians.

The visitors' final official act was to call on the Prime Minister, Sir Milton Margai, at his home in the hills. He saw their car approach and came outside to beckon them in.

Sir Milton, a wiry, elderly man in an open shirt, talked to them about his life as a doctor in the bush before entering politics. He had spent many years teaching infant care and fighting the practice of female circumcision.

"We talked for a couple of hours," said Professor Hood. "At one point

I found I wasn't seeing the Prime Minister clearly and began to worry about my eyes. Then I realized what was wrong: a wisp of cloud had drifted in through the open window."

Professor Donald Creighton and the Federation

WITH EACH suspicious of a government dominated by the other, the issue between the White African and the Black African stands unresolved in the Federation of Rhodesia and Nyasaland. This is a danger spot: Northern Rhodesia tasted mob violence last summer. Conversely, it is an oasis of hope: nowhere else in Africa is a relatively strong European population working with native Africans and supporting changes leading towards racial co-operation.

Says Professor Donald Creighton: "To break up the Federation because of racial antagonism now would be to surrender to the idea that the two races are indeed irreconcilable and that partnership between them is impossible."

This University of Toronto historian has first-hand knowledge of the powerful forces which must be harnessed if fair play and justice are to prevail within the emerging nations of Central Africa. As a member of the Monckton Commission appointed by Britain to advise on constitutional changes for the Federation of Rhodesia and Nyasaland, he helped to write the

report which has been a centre of controversy ever since its publication eighteen months ago.

In Northern Rhodesia, where Africans outnumber Europeans by thirty to one, the Monckton Commission recommended a change in the constitution which would give Africans the chance of a majority in the legislative council. After a false start last year (which resulted in riots) the proposal was adopted in February.

The Northern Rhodesian development was greeted with approval by Nyasaland, its neighbour. Here Africans have a solid majority in the legislature but they are not satisfied with the Federation from which, as the poorest state, they seem to have the most to gain. Dr. Hastings Banda, the powerful minister of natural resources and local government, stands firm in his resolve to break away.

Sir Roy Welensky, prime minister of the Federation, rejects Northern Rhodesia's constitutional change and has threatened force to preserve the union. The general election he called in the Federation for April 27 with the stated purpose of preventing its break-up was boycotted by all major opposition parties, and served only to demonstrate the solidarity of the following of Europeans.

"It is easy to be wise after the event, and even easier to be too complacent about one's own proposals," Professor Creighton said recently. "But it is only human to speculate about whether some of the trouble of the last year might have been avoided if our recommendations had

been followed without hesitation. Britain could not expect the white settlers to like the Monckton formula for Northern Rhodesia. But, if it had been adopted immediately—instead of moving first in one direction and then in another—things might have gone better there and in the Federation as a whole. Uncertainty so often invites trouble.”

“Britain,” he continued, “has special obligations as guardian of the Africans in the two northern protectorates, Northern Rhodesia and Nyasaland. The white settlers, many of whom are the second and third generation in Africa, maintain (with justification I think) that they are Africans, too, with nowhere else to go. The compromises Britain is trying to introduce as mediator in the quarrels between White Africans and black Africans are in danger of being wrecked by extreme nationalism on both sides. In her attempts to get the races to co-operate she created the Federation which has Africans in its legislature and multi-racial co-operation as its avowed aim.

Professor Creighton pointed to these helpful signs: The moderately liberal course which Premier Sir Edgar Whitehead is following in Southern Rhodesia. “Although considerably more restrictive than the other territories, Southern Rhodesia is a long way from apartheid,” said Professor Creighton. “It is growing more liberal: there are large multi-racial hotels, and segregation in the post office and in many shops is a thing of the past.”

¶The new constitution of Southern Rhodesia which gives Africans about a quarter of the seats in the legislature (fifteen) has been accepted two to one by the *present* electorate.

¶The contentment of Nyasaland with its new constitution (although not with the federal union).

¶The possibility that the new constitution in northern Rhodesia will make a reasonable compromise possible there.

The only Canadian on the Commission, Professor Creighton was chosen because of his interest in the Canadian federated structure and how it has worked. In the Monckton Report, he and his colleagues proposed airtight safeguards against discriminatory legislation. Some but not all of these measures have been approved in a modified form by Southern Rhodesia, the only territory which so far has accepted a Bill of Rights and a Constitutional Council to enforce it.

“The Federation,” said Professor Creighton, “stands between two extremes. To the south is South Africa where a white minority, firmly entrenched, espouses a theory of racial superiority. To the north are states with Europeans now (or in the near future) living under native African governments. Only in the Federation of Rhodesia and Nyasaland is there a chance for Europeans and Africans to unite in a voluntary, co-operative system of government.

“If the Federation breaks up it will be an economic, political, and human tragedy.”



The University College of Tanganyika Is Born

CRANFORD PRATT

INTERNATIONAL AID, resolute political leadership and an imaginative gesture by nationalist movement combined to effect a major acceleration in the development of University education in Tanganyika. Cautious foreign advisers had suggested a beginning of a University College in Tanganyika in 1964; more cautious still was the advice to wait until after 1970. Yet early last year the Government of Tanganyika resolved that the University College, Dar es Salaam, ought to begin if at all possible in 1961.

A major British grant of £350,000 was made towards the initial capital costs of the College, the Rockefeller Foundation gave £10,000 towards the immediate first needs of the library, and aid from the Canadian Government made it possible for Professor A. B. Weston and myself, both from the University of Toronto, to become the College's first Dean of Law and Principal. The Tanganyika African National Union then offered to lease to us





Principal Cranford Pratt receives the Hon. Julius Nyerere, then the Prime Minister, at the opening ceremonies for the University College of Tanganyika. Standing between them is Abdulkarim Y. A. Karimjee, Chairman of the Council of the University College and Speaker of the National Assembly. His father, Sir Yusufali Karimjee Jivanjee, recently gave the College £40,000. The photograph was taken last October, six weeks before Tanganyika became an independent nation.

Two Vistas in Tanganyika

Right: Mighty snow-capped Kilimanjaro, highest peak in all of Africa, rises in Tanganyika's north. On Independence Day, last December 9, Lieutenant Alexander Nyirenda of the Tanganyika Rifles climbed to the top with a torch and his nation's flag. In the foreground are two Chagga women. The country (population about 9,300,000 and more than 98 per cent African) has about 120 tribes. It is a little smaller than British Columbia.



Below: This Tanganyikan teenager could be pondering his future. The modern building before him is the temporary first home of the University College, leased by the Tanganyikan African National Union, the country's only major political party.





their fine new national headquarters as our temporary accommodation until our permanent buildings have been designed and built on the College site. In October of last year, four months after the appointment of the Registrar, and two and a half months after my arrival, the first students were admitted.

The University College is the newest of three Colleges in East Africa, the other two being the well-established Makerere University College in Uganda and the newer Royal College in Kenya. The three Colleges are joining together to form the University of East Africa. It is a grand

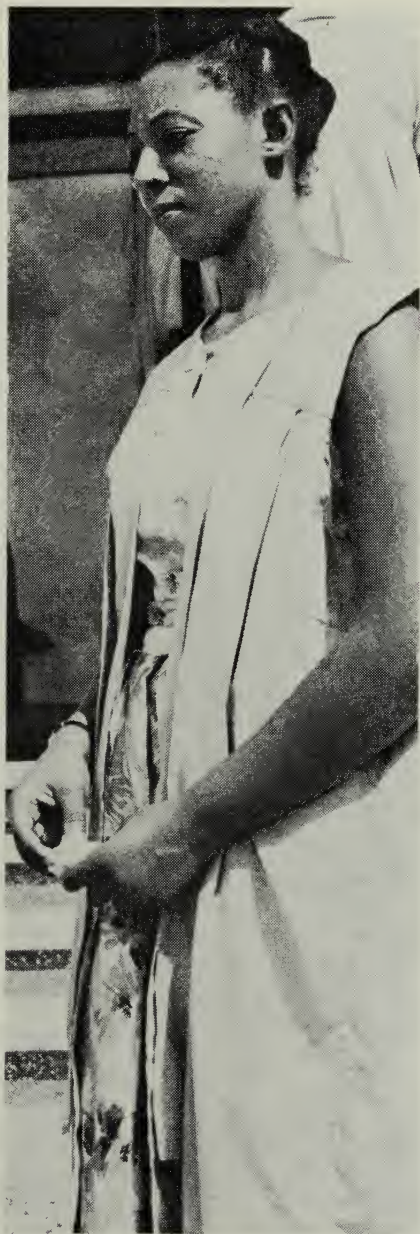
conception, a federal University that will transcend three international boundaries. Each College will soon be doing undergraduate teaching in the Arts and Sciences but the Professional schools will be shared. Thus, the medical school at Makerere and the engineering school at the Royal College, will continue to serve the whole of East Africa until there are the need and the resources for second schools. Law, the one major faculty that had not yet been developed in East Africa has now been started in Dar es Salaam. Other faculties will follow as swiftly as the money can be raised and the buildings built. By



Right: East Africa's first woman law student is Miss Julie Manning of Kyela, Tukuyu. *Left:* Students Gilbert Chiponda and Arnold Kilewe hunt for precedents in the College law library.

1964 or possibly 1963 we hope to be in a position to begin our Faculty of Art on a fine 850-acre site outside Dar es Salaam with Science following in 1965.

There can be few countries as much in need of educational developments as Tanganyika. Her rapid peaceful achievement of self-government, her lack of racial tension, her political stability and the exceptional qualities of Mr. Julius Nyerere, who resigned as prime minister recently, all have given Tanganyika a well-deserved excellent international reputation. But the scarcity of trained Africans is so acute as to make the problems in Tanganyika, in my judgment, qualitatively more difficult than they have been in West Africa. In the senior ranks of the civil service of 4,887 posts, only 616 were held by Africans on July 1, 1961 and most of those had been appointed within the previous two years. (At the end of 1958 there had been only 181 Africans in senior posts). With independence there was inevitably a rapid diminution in the numbers of expatriates in the civil service. It is anticipated that 30 per cent of the British officers will have left within the first year with a continuingly rapid run-down after that. Yet the reserve of trained talent with which to replace them is minute. The total number of high school graduates in 1960 was



only 1,200, with the annual graduation figure rising to 400 in 1961. It is in the context of this emergency situation that the work of the University College must be viewed. It is this emergency which both explains the need for rapid acceleration and justifies, I hope, our claim for extensive foreign aid.

Securing this aid is now our most pressing problem for if we fail to

maintain our present momentum, if we must postpone further development then Tanganyika will suffer and the whole project of the University of East Africa will falter. This aid, despite the great interest in the higher education of Africans, is not as forthcoming as one might hope. For reasons misconceived I think, of national and international politics governments have not yet recognized



In Serengeti National Park, lions rest after a kill. It was in Tanganyika that Stanley found Livingstone in 1870 after the explorer had been wandering through the country for five years.



Left: Aerial view of Dar es Salaam Harbour, "Haven of Peace". Sisal is Tanganyika's main export, followed by cotton, coffee. The diamond mine discovered near Lake Victoria by John Williamson, a geologist from Canada, is worth \$5 million annually to the federal treasury.

fully the value of helping African states to build their own universities. Instead there is often a preference for bringing African students to a receiving country; while aid to African institutions is hedged about with requirements to employ nationals of the donating country, to buy materials from the donating country and to accept a host of advisers.

Two other issues are of equal importance to matters financial. We must succeed in finding ways immediately to contribute to the national life of Tanganyika over and above the excellent work of our Faculty of Law. An Institute of Administration was

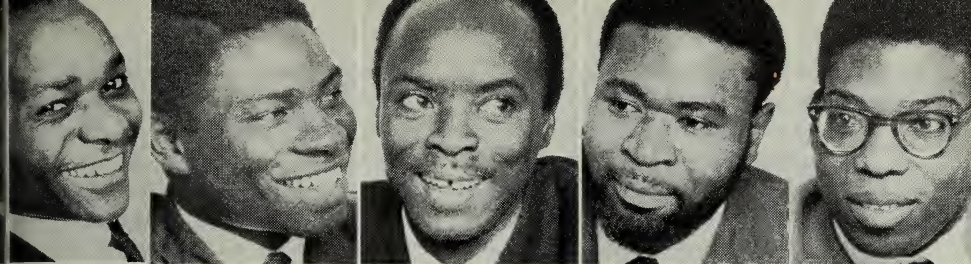
started in 1961 to assist in the training of Africans for greater responsibility in government; extramural work is already under way and will be expanded; short lecture courses have been held for members of the National Assembly. The scope and opportunity here for educators willing to define their responsibilities widely is enormous.

Finally, despite the fact that few, if any, of our senior staff will be Africans, we must nevertheless succeed in becoming a genuine national institution. Two considerations dominate our thoughts on this. The first is the need, just mentioned, to contribute as a College to the solution of Tanganyika's immediate problems. Second, we must introduce degrees which in their structure and content are ap-

propriate to the needs of an independent African State. A mere transplantation of a London syllabus, or a Toronto syllabus, will not do. If we can introduce a curriculum, particularly in the Arts Faculty, that will be intellectually enriching and academically rigorous but will also be clearly related to the needs of Africa and to her culture, her history and her economy, then we shall have made, I think, one of our most important lasting contributions to higher education in East Africa. Africa will not long tolerate a mere pale reflection of the universities at which its white instructors themselves were taught. If we are to build a lasting university it must be in its conception, its orientation and its preoccupations, an African university.



Facing page: John M. Ohas of Kenya, a General Arts student, is seen in the lower left corner of the page. Moving clockwise, the other African students are: C. Kibe Karanja, Kenya, Civil Engineering; Fenehas Machiwa, Kenya, Social and Philosophical studies; Dr. Y. Otsyula, Kenya, Public Health; David E. Keli, Kenya, General Arts; Isaac A. Akande, Nigeria, Optometry; Johnson Kiwalabye, Uganda, who is studying at the Ryerson Institute; Nathaniel K. Adzakey, Ghana, Education; David C. K. Tay, Ghana, Graduate Studies (Civil Engineering); David J. Ekanem, Nigeria, Civil Engineering; S. O. Nwachukwu, Nigeria, Graduate Studies (Geophysics); E. M. Waliaula, Kenya, General Arts; Christopher Ofochebe, Nigeria, Electrical Engineering.



The luxury of identifying ourselves
only with those close to us in language, habits
and political traditions is gone

The University and the World

The University of Toronto students whose faces ring this page form part of the African group which in turn comprises about a tenth of the thousand foreign students enrolled this year. This international community within the University and Varsity's role in the international community of the world will benefit from the International Centre for which Rotary International District 707 is raising \$250,000. A site on the north side of Harbord Street has been donated by the University. The following article consists of extracts from an address given by the President at a Rotary dinner.

CLAUDE BISSELL

WE REALLY CANNOT EXPECT the emergent nations of Asia and Africa to turn themselves into junior versions of Italy or Scotland or Texas. But we may hope that some of our moral and political ideals will eventually be accepted as eagerly as our technology is already accepted.

It was the rise to power of Soviet Russia that first made us realize how completely we had cut ourselves off from the greater part of world civilization.



Here was a whole section of the globe that was obviously going to be crucially important to us, whether as friend or foe; we were not studying its language and literature; and we were teaching history, politics, economics and even geography as though it scarcely existed.

Another such area was China, another the Near and Middle East, and the latest, Africa. We are now teaching most of the main languages except the African ones, and it is our aim to have experts in all these areas on the staff of departments such as history and political economy, so that our students will be realistically aware of the world as it is, the world they must live and work in, rather than the smaller and less complicated world that has passed away.

So the act of international understanding begins at home. And yet scholarship, no matter how comprehensive or intense, is no substitute for actual human contact. We have known that there should be more movement of Canadians abroad, particularly to those areas that in the past have not received our attention. But we did not take the initiative here; the students themselves were ahead of us.

There is growing on the university campuses of Canada and the United States a new kind of missionary zeal among the students, a desire to make themselves part of this effort towards world understanding that has brought us together this evening. You have heard of the Peace Corps in the United States. Before the Peace Corps was formed and launched with a fanfare

of publicity, Canadian students on the Toronto campus and elsewhere had formed the Canadian Overseas Volunteers—an organization that proves, if proof were needed, that idealism, self-sacrifice and hard, dedicated work are not strange to the young people of this generation. Preparing themselves for overseas service as teachers, nurses, doctors, engineers, they found out which countries needed which kind of graduate, they asked the University for the language training they would need, and then slugged away in extra week-end classes at this extra work on top of their normal schedule in fourth year Engineering or whatever course they were in.

I come now to the third way in which we can develop our international fellowship. Increasingly, young men and women are coming to our campuses from all over the world, eager to learn and to equip themselves for leadership in their own countries. They come in particularly large numbers to universities like the University of Toronto that offer a wide range of professional and postgraduate courses. Ten years ago we had 488 students from outside Canada, of whom 153 came from the less affluent parts of the world. Last year we had 973 foreign students. There were 171 from the West Indies, 97 from India, Pakistan and Ceylon, eight from Ghana, and 116 from the British colonies, making 392 Commonwealth students (not counting those from the United Kingdom, Australia and New Zealand). We had 75 from non-Commonwealth parts of Africa, Asia and

the Pacific Islands, and 24 from Central and South America; so that altogether, out of almost 1,000 foreign students, 491 were from the parts of the world where education is most sorely needed and most devotedly sought. These, with the European, British and American students and our native Canadians, make up a miniature United Nations on our campus—united in the pursuit of learning.

We have a double job to do with these students. Our first job, of course, is to give them a sound education. Our second, and equally important, job is to make them aware of this country and at the same time to make ourselves aware of them. This is why the International Centre at the University of Toronto is going to be so important. It will not be just a clubhouse or social centre. It will be a focus of the process of mutual understanding. It will be an area where the University and the community meet and work together. For we realize that the University itself does not give the key to our society. The students who come to us to prepare themselves for great responsibilities at home should be given more than classroom work and social entertainment. They should be given a chance to see how our homes, our churches and our social institutions interact with our schools and universities to produce the society we know. They should be able to get into informal discussions with a variety of people—businessmen and union men, teachers and trustees, taxpayers and town planners—so that they may see that most questions have two

sides, and realize how much maturity, judgment and patience are required to make democracy work.

We have, then, a community led by the University, working in three directions toward human understanding. It is a source of knowledge in itself, an exporter of those who will spread knowledge, and an importer of those who will enrich its life and at the same time take back with them to their own countries the knowledge, the fellowship and the understanding that they have found in Canada.

I have stressed *understanding* as a motivating force behind our interest in internationalism. This is a word that Rotarians use, and it is, I think, the right one. The economic motive, of course, appeals only to self-interest. The political motive may lead to distortion and emphasis for the sake of converting others to our cause. Even humanitarianism, as we have learned to our cost, may contain within itself the seeds of disillusion, for it is difficult to avoid an attitude of superiority, of condescension, and this, as we know, is sure to breed resentment.

No, Rotarians are right to emphasize the word 'understanding', because that word involves both an intellectual and an emotional attempt to identify yourself with the aims and desires of others alien to you. To-day international understanding is an essential component of good citizenship. We no longer can content ourselves with the luxury of identifying ourselves only with those who are close to us in language, in habits, in political traditions. Even less can we permit



Faye Heron, of Kingston, Jamaica, at an F.R.O.S. party shortly before leaving Toronto for a teaching post in Ghana.

ourselves the luxury of hating in accordance with political and national categories. That is why the project for establishing an International Centre at the University of Toronto has aroused the imagination of thousands. For the International Centre is not only a specific act in understanding, but also symbolizes and proclaims this new state to which, as citizens of the world, we must aspire.

"Just what

F.R.O.S.—the initials stand for Friendly Relations with Overseas Students—is the forerunner of the University's International Centre which will be built with funds raised by thirty Rotary Clubs. The organization was formed more than ten years ago to make life more agreeable for students from abroad. It is now in its eighth home, an old building on the West Campus. Here students from sixty countries, of all colours and beliefs, meet at lunch, at parties and dances, in study groups or across the ping pong table with Canadian students and each other.

The walls of F.R.O.S. House were decorated with cardboard flags of green, black and gold when African students celebrated Tanganyika's independence last December.

The night before, with students from Hong Kong and Formosa as the hosts, oriental lanterns played on Chinese prints and girls in high-colored silk sheaths. The former moderator of the Presbyterian Church in Formosa (at present studying in Knox College) and four assistant chefs prepared dinner for 180 guests.

Other nights this chameleon of a house has been Italian, Indian, Scandinavian, Spanish, Jamaican.

F.R.O.S. volunteers welcome foreign students by letter before they leave home, meet many at the airport, untangle immigration problems, provide temporary shelter, help find permanent

ny friend would do..."

quarters. Each year, through F.R.O.S., Canadian families extend about a thousand invitations for dinner or the weekend. From such meetings have grown close friendships.

The University supplies F.R.O.S. with quarters and secretarial help. Other expenses are met by individuals and outside organizations. Volunteer

workers may be students, professors and their wives, or people with no other University connection.

In F.R.O.S. old antagonisms fade away. For example, Pakistanis and Indians share a single office.

"We have here," one student has said, "international co-operation on a practical level."

At right with Inya Yude of Nigeria is Mrs. Kay Riddell, F.R.O.S. executive director. She has been part of an international community for most of her life. Her husband, R. G. Riddell, was one of Canada's best young diplomats and the country's permanent representative to the United Nations when he died in 1951. A few months later Mrs. Riddell received her F.R.O.S. appointment.

She describes her job in these terms: "We just do the things any friend would do for another."





Young women from Guinea, in Toronto to train as stewardesses for Guinea airline, attend an F.R.O.S. party and enjoy the African dance exhibition, *right*





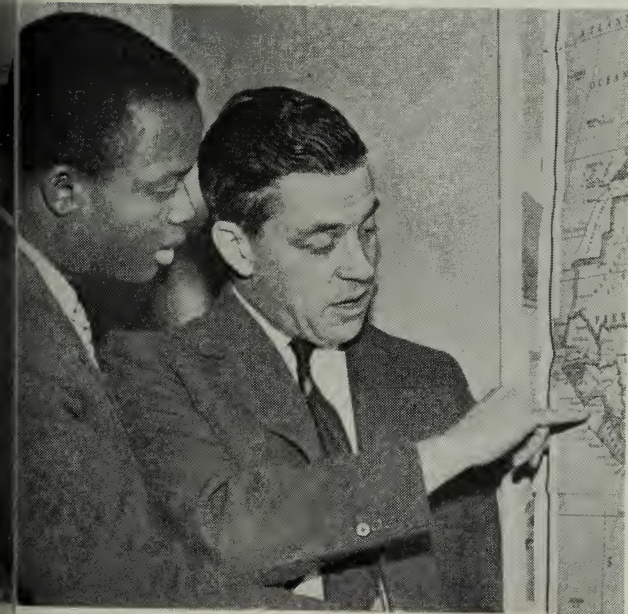
Left: Now trying for his Master's degree in civil engineering, Nick Aplin hopes to be teacher in Nigeria. With him is Edward Chukukere of Nigeria who is studying for a Master's in metallurgical engineering

Below: Professor M. R. Powicke, Chairman of F.R.O.S., talks with Mrs. Nylander, wife of Ghana's High Commissioner to Canada, and Chalmer St. Hill, Barbados, Bachelor of Library Science





Above: Among Kenyans attending F.R.-O.S. party were Dr. Yonah Otsyula, doing graduate work in public health, and Stevens Ochieng, preparing for career in public administration



Left: Prof. Robin S. Harris reviews his trip to Sierra Leone on UNESCO mission with Akin Akinsulure of Sierra Leone who has come to Toronto for graduate work in education

Students from several countries gather around the F.R.O.S. buffet table. Second from left and partly hidden from the camera is A. A. Kahn of Pakistan. He is flanked by two Indians, H. S. Grewal, a Sikh, and G. N. Sharma, of the University of Delhi. Mrs. Sharma is beside her husband. Then come Maartje Laurentius, the Netherlands, and Miguele Flores, Philippines.





Mrs. Riddell is seen here with Jean Sturges of Trinidad. After ten years as executive director of Friendly Relations with Overseas students she has friends around the world. Christmas cards come from the superintendent of Thailand's National Atomic Energy Authority, the Education Minister of the West Indian Island of St. Kitt's, a member of Ghana's foreign ministry, engineers in Pakistan, teachers in Japan and Hong Kong, a nursing supervisor in Costa Rica, a pharmaceutical researcher in India, the Principal's Assistant in University College of the West Indies, and many others.

"It is routine now to eat our rice by hand,
sitting cross-legged on the floor"

Ventures in Understanding

MARY QUAYLE INNIS

"Rise 5:30, cleaning 6-6:30, prayer 6:40, breakfast 6:45, Department Work 7-12 (to start with half an hour of spinning), lunch 1 p.m., rest, Department Work 3-5:30, prayer 6:15, book keeping and daily diary writing 6:30, Study Circle (read papers and discussion) 7:30, dinner 9:30."

This does not sound like the daily routine of a Canadian girl especially when Department Work consists of "visiting with the midwife in the one-roomed mud huts—and attending the clinics with the doctor as numerous patients wait to be tended to".

Silvia Silvertown, a young nurse from Alberta, writes from a Ghandian institution in West Bengal. In honour of Ghandi's memory all the workers spend some time each day in spinning. Twenty-five of these, ten of them

living in the institution, carry on bee-keeping, soap making, chicken raising, oil pressing, weaving of cotton cloth, pottery and brick making. They conduct health clinics, a midwifery school, distribute UNICEF milk, carry on a pre-primary school, sewing and singing classes for the village girls and a travelling library service.

In addition to her work with the midwife and doctor, Silvia gives singing and harmonica lessons. She often wears a sari and "it is routine now to eat our rice by hand, sitting cross-legged on the floor, and to wash our clothes by hand in a pail".

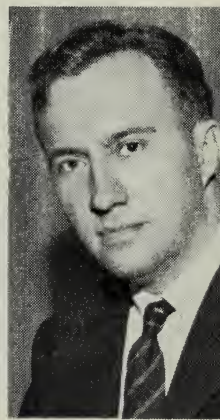
Silvia is a Canadian Overseas Volunteer, one of fifteen who went last October to work in India, Sarawak and Ceylon. Like the United States Peace Corps in intention, the COV is

Dr. Innis is Dean of Women at University College.



Above: Indian recipe for a village water tower: First a stone foundation, then a brick shell, then a bowl of concrete. There's nothing to it—except that once the bucket brigade starts on Phase Three, the pails of wet cement must be kept coming until the job is done. The Volunteers from Varsity who helped to build this tower at Sevagram worked all night.

Keith Spicer, *left*, graduate student at Varsity, got the idea. Frederick C. Stinson, Q.C., *right*, Varsity graduate and Member of Parliament, took him up on it. Varsity students became enthusiastic allies, staff members who know Asia gave practical help and sound advice. Money was raised, young men and women trained, and the first Canadian Overseas Volunteers—14 from Varsity and one from Laval—left on schedule last summer for their one-year assignments. This year the target is 20.



very unlike it in organization. The Canadian government contributed no money whatever to COV. Funds were given by the University of Toronto Students' Administrative Council, by service clubs, churches, the Voice of Women, Toronto newspapers and a few business firms. The volunteers live on wages paid by the local groups for which they work. It costs \$2,000 to send a volunteer overseas for a year. This covers transportation, small administration costs, an emergency fund of \$200 for the possible needs of the volunteer in the field and a grant of \$200 to help him re-establish himself when he returns to Canada.

In the winter of 1961 a series of orientation lectures was given on the campus for interested students. The lecturers dealt with the geography, economics and social conditions of the Asian countries to which volunteers were to be sent. Students were then invited to apply and in the end fifteen were chosen for COV posts.

When they arrived in India the volunteers were given further orientation courses and then went to their new positions. They work in three general areas of activity—nursing, teaching and regional planning.

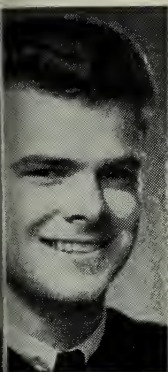
Grethe Dahl from Richmond Hill, like Silvia Silverton, is a nurse and she works with the public health department in Ceylon. She lives in an English speaking Singhalese family and most of her work is in rural health clinics. "Some treatment of worms and malnutrition is given at clinics. Milk powder, cod liver oil and vitamin preparations are distributed at all the

clinics as long as these are available. I have been learning about the local foods, methods of preparation and daily living habits of the villagers."

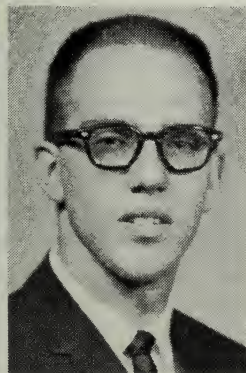
Beside teaching English and physical training, Sally Bambridge also helps in the hospital of her Indian village. "My job is to bandage sores, dress wounds, hold the flashlight for operations, sometimes give a little assistance and examine those female patients who will not allow the doctor to touch them. . . . I have seen things I thought existed only in medical textbooks—malaria, typhoid, tubercular skin diseases, gonorrhoea, syphilis, leprosy, scabies; babies of six months so scrawny and thin they looked like wizened up old men, and children who had not had a bath for weeks." Her enthusiasm for cleanliness made such an impression that one of her classes of little boys washed their faces and hands of their own accord to surprise her.

Among the teachers is Stephen Woolcombe from Montreal who is teaching French and English in a large co-educational school at Shreyas, north of Bombay. Most of his students read and write English to some extent but very few speak it. "I have established good relations with the students I have met and they are eager to learn. I feel that much can result from informal chats as well as the classes. I plan to produce a play in English with many students participating."

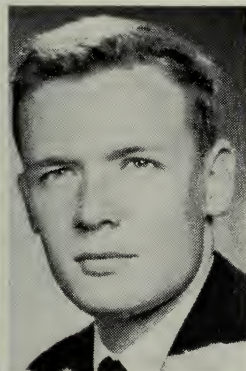
At a government boarding school in Sarawak Helen Wooldridge is teaching English and history and cataloguing the library while her hus-



DON WOOLDRIDGE, SILVIA SILVERTON



GRETHE DAHL, EDWARD ENKIN



STEPHEN WOOLLCOMBE, DALE POSTGATE

band Clendon teaches mathematics and science. The school is chronically short-staffed, so that the young couple also supervise meals and dormitories and administer first aid when necessary.

Two young men, Dale Postgate, a graduate in political science and economics from Toronto and Edward Enkin, a graduate in engineering physics from Windsor, are working with the Rural Planning Institute at Maharashtra. They live at Sevagram Ashram, another community founded by Ghandi, where the Rural Planning Institute was started a year ago. The institute is an imaginative venture intended to develop better tools and techniques to improve village industries. Three teachers—two agriculturists and an economist—teach fifty trainees who will set up farming and industrial schemes in the villages.

Since eighty per cent of the population of India live in villages, planning of this kind could have very practical results. Edward Enkin's first job was to help draft a report on "the selective mechanization of the hand-pounded rice industry". Dale Postgate went with a group of trainees on a study tour of northern Bihar. They stayed in a hostel where hand-operated spinning wheels like that used by Ghandi are produced. Everything is made there from the huge mahogany logs which are cut up in the colony's sawmill to the metal fittings and the wooden pulleys turned on hand-driven lathes. "The other major activity was the weaving and dyeing of khadi cloth from the cotton yarn handspun in the

surrounding villages. Even the pressing was done by hand, with two men pounding the folded cloth against a mahogany log with wooden clubs." The seven hundred workers earn from 20 to 60 cents a day each.

What impresses one in reading the letters of these young people is the apparent ease with which they have adapted themselves to new ways of life. No one can doubt that they have often been discouraged, tired, uncomfortable and perhaps at first homesick. But the process of adaptation seems to have been in the main smooth and rapid. There are no complaints about climate. Indeed when people commiserated with Grethe Dahl about the heat in Ceylon she answered that Toronto could be just as hot and humid as Columbo.

Housing accommodation is simple and pleasant. In the Punjab Anne Jones describes her "fit and comfortable home", a room "about twelve feet square and furnished with a 'charpoy' bed, two small tables, a one-burner hot plate, a chair and a clay pot to keep water cool and fresh".

Dale Posgate lives in a bungalow which was once part of a flour mill. "It has a roof of bamboo topped with clay tiling, a stone floor and the whole front is enclosed by bamboo lattice work. . . . Very comfortable and more than adequate to my needs." The Wooldridges in Sarawak have a "comfortable house on eight-foot stilts".

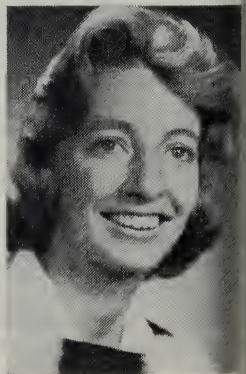
Twice a week Helen and Glen Wooldridge ride three and a half miles on their bicycles to shop in the market. They "get tremendous enjoyment out of strolling through the vegetable, fruit and fish markets, going from stall to stall, greeting familiar faces and stopping at our favourite stalls for friendly bargaining sessions for our food stuffs".

New foods are a source of pleasure and interest. The Wooldridge's eat at a typical dinner . . . "young coconut milk as an appetizer, curried chicken and rice (we buy our chickens from an Indian who lives behind us—on the 'hoof'), sauteed bean curd or bean sprouts in peanut oil and soya bean sauce. None of the vegetables we use are familiar." . . . For dessert they



A popular Canadian import in at least one Indian city is the Red River square dance. Sally Bambridge, *left*, taught it to her pupils in Benares to celebrate India's Republic Day. She says they love it.

Ann Jones, *right*, reports her Punjabi students are "Canada conscious" too. If she could get some books about Canada for the school library, she is sure they would be read.





Bill McWhinney, left, Volunteer in Ceylon, came home this spring to relieve Ozzie Schmidt, centre, the graduate student who had been in charge of C.O.V. recruiting, training and campus-fund raising through the winter. Photographed with them is Professor Nathan Keyfitz of the advisory committee. Working out of the Adelaide Street, Toronto, office of Frederick Stinson—the Member of Parliament who helped Keith Spicer launch the organization and who is now its president—C.O.V. had raised \$16,000 by mid-April. Another \$24,000 was needed. Donations may be sent to Canada Permanent Trust, 320 Bay Street, Toronto 1.

eat fruit young coconut, bananas, pineapple, papaya, mandarin oranges and other, unfamiliar varieties. On one journey Dale Posgate was amazed to be offered a meal of hot popcorn.

All of the volunteers have had some sightseeing, visited festivals or plays and one has seen elephant races. Wherever they go the problems and pressures of Indian life are revealed. Along the 140-mile route from Delhi

to Agra, Stephen Woollcombe writes, "we did not travel more than a yard without passing some peasant man, woman or child, not to mention multitudes of cows, water buffalo and other animals".

From the train window Silvia Silverton "passed the now common sights of plowing done with oxen and wooden plow, wallowing water buffalo, mud and dung one-room houses

Books for C.O.V.

READERS with books, especially books about Canada, which are available for shipment to libraries in India and Ceylon, should address inquiries to Canadian Overseas Volunteers, 11 Adelaide street W., Suite 606, Toronto 1. The telephone number is Empire 6-8851.

on the side of the track, children begging at the train windows, myriads of sari and dhoti-clad people and cows, monkeys and goats everywhere".

The volunteers have met with warm and generous friendliness. Letters are full of such expressions as "they opened their homes and hearts to us" . . . "We have met concern and good will ever since our arrival from our hosts and from many casual contacts, and have come to appreciate the true meaning of hospitality" . . . "The people here in Ceylon must be counted among the most friendly and courteous in the world" . . . "It has been my good fortune to make many friends in all walks of life."

One wonders whether in view of the language difficulties a year is long enough for the volunteers' appointments; "The language barrier is my biggest difficulty now"; "Language is still a barrier to me for work on my own, but the midwife and I work quickly together." The Wooldridges have already offered to remain an

extra three months in order not to break off their teaching in mid-term.

All the letters underline the tremendous need for doctors, teachers and nurses. All stress the friendliness with which the volunteers have been received, the eager response to their efforts and their own enthusiasm for the work they are doing. "The lot of a Canadian Overseas Volunteer", Sally Bambridge writes, "can be uncomfortable, shocking and maddening; yet at the same time be delightful, rewarding, fascinating. Here life cannot be dull. In India there are things to be learned and things to be done."

After reading these letters one asks, what can we do?

At the school in Sarawak where the Wooldridges teach there are 1,500 books in a library in which most of the shelves are empty. Many of these books are paper-bound and many are for primary children. Among the collection are 350 books about New Zealand given by the government of that country. There is not one book about Canada. We could see that this and other school libraries receive books about Canada.

Then thirty students have volunteered for next year's COV mission and there have been more than thirty applications for them from Asian and other countries. They have had their orientation courses here and are ready to go. We can contribute to the fund which provides their modest basic expenses. It is hard to think of a more direct, constructive and encouraging experiment in international understanding.

With support from other departments, East Asiatic and Islamic Studies are opening up new vistas in ancient, exciting and practical areas of study

Africa, Asia Challenge Scholars

W. A. C. H. DOBSON

THE INFLUENCE of the African and Asian world is increasingly felt on campus these days. Students from Africa and Asia knock importunately at our doors, while members of the Faculty, in ever growing numbers, visit these once exotic continents. The "winds of change" blow and Varsity's response to them invests the University with a new and unprecedented role in international affairs. But not all is aid to Africa and Asia. We too are reaping benefits.

As geographical boundaries shrink and draw nearer, our intellectual horizons broaden and spread further. And this is nowhere more strongly felt than in the Humanities and Social Sciences. Our traditional "object of

contemplation"—Western man and his society—is being placed in a wider and richer context. Non-western man and his civilisatory achievements are now becoming objects of study. Difficult and unfamiliar languages are being taught, new literatures and philosophies studied, while historians are turning to the half of the world that once was neglected. "The proper study of mankind is man" and the "winds of change" are reminding us how narrowly we have understood Pope's maxim in the past. The whole of mankind, and not its western half, is our proper study.

The academic implications of all this are being closely studied by an Interdepartmental Committee set up by Dean Vincent Bladen, The Com-



mittee on Asian and African Studies. Broadly speaking, we have two departments in the Faculty of Arts and Science specialising in Asian and African Studies, namely the Department of East Asiatic Studies and the Department of Islamic Studies. In these departments, a student can take a full four-year Honours Course. In addition, the Departments of History, of Political Economy, of Geography and of Anthropology are providing courses of a specialised nature in Asia or Africa, usually in the form of an introductory course in the second year and "special subjects" in the fourth year. At the graduate level, various combinations of departments and disciplines are possible, making the University of Toronto, potentially, one of the most important centres of Asian Studies on the North American Continent.

The Committee on Asian and African Studies have prepared a booklet, "Asian and African Studies at the University of Toronto", describing the courses presently offered to students

in the University, and sketching briefly some of the courses planned for the future.*

In its foreword, the booklet says "Over and above the reporting of day-to-day events, we need studies in depth—studies of the philosophies and religions and of the literatures of these (Asian and African) people. We need experts who can speak their languages. We need those who will study and write their histories. Studies of this nature and depth come pre-eminently within the sphere of the university. But they are a pre-requisite to intelligent policy-making in our day-to-day dealings with the non-Western world". But we have not only "practical" ends in view. In fresh ventures, the Humanities are rediscovering something of the excitements of discovery that invigorate the Sciences. In this we are serving our own best and purest academic purposes.

*A copy of this booklet will be sent to readers on request to The Secretary, Room 5029, Sidney Smith Hall, University of Toronto.

PROFESSOR W. A. C. H. DOBSON, author of this article, has been Professor of Chinese and Head of the Department of East Asiatic Studies at University of Toronto since 1952.

Professor Dobson's book, "Late Archaic Chinese", a revolutionary approach to Chinese grammar, drew praise from scholars throughout the world (including China and Russia) when it was published in 1959. A second book, "Early Archaic Chinese", was published in March of this year and he has just finished a third, "Mencius—newly translated and arranged with notes for the general reader". Mencius, the Chinese political philosopher, lived in the 4th century, B.C.

In April, Professor Dobson left Toronto for a two-month appointment as Visiting Professor at Christ Church, Oxford. The surroundings would be familiar: he earned both his Bachelor's and Master's degrees at Oxford and lectured there for four years.

The individual American, now taxed about ten times as much as a Canadian for medical research, is helping to maintain the level of scientific investigation in our universities

MEDICAL RESEARCH (COURTESY OF UNCLE SAM)

ARTHUR W. HAM

SINCE 1946 the Public Health Service of the United States, through its chief research bureau, the National Institutes of Health, has made increasing amounts of money available for medical research and the training of medical and biological scientists. The budget for this purpose, which was less than a million dollars in 1946, amounted to around 300 million dollars in 1961. This very large sum is distributed chiefly to investigators and teachers in United States who apply for the support of their research and the training of young scientists. The agency in Canada that probably comes closest to serving a similar function is the Medical Research Council; this body has recently grown out of and replaced the Medical Division of the National Research Council. The budget here was \$158,000 for 1946-57 and \$3,300,000 for 1961-62. It would seem, therefore, that taxpayer support for medical research in recent years has grown about 10 to 15 times as fast in the

U.S. as it has in Canada, and that the individual taxpayer in U.S. now provides roughly about ten times as much for medical research as his counterpart in Canada.

Fortunately for us the National Institutes of Health of United States gives some of the very large sum they obtain to scientists in foreign countries, for research and training purposes. Canada receives more of this money than any other country. In 1961 Canadian scientists received around \$1,300,000 from this source and although figures are not available for 1962 the amount for this year is expected to be considerably larger.

What are the effects of such a large percentage of our research effort being supported by American taxpayers?

First, it should be emphasized that there is no attempt whatsoever to control our research programme with these funds. The action of United States in supporting our research is a generous gesture that cannot be misinterpreted. The only way that these

Dr. Ham is Head of the Department of Medical Biophysics and Professor of Anatomy at University of Toronto.

grants affect our research programmes is to let us develop them the way we wish. They have enabled many of our better-established research groups to get off the ground and show what they can do. They have even been instrumental in helping keep some of our young scientists in Canada.

The fact that we get more than any other country makes us appreciate that we are in a very favoured position for obtaining such a large share of the money that U.S. gives to foreign countries. One reason for this may be that all the great American scientific societies are completely international so far as Canada is concerned, and most of us belong to one or several of them and attend, and contribute to, their meetings. Indeed, it is not unusual for Canadians to hold high office in an American scientific society or for an American scientific society to occasionally hold an annual meeting in Canada. All this has established such a rapport between American and Canadian scientists that any distinction they tend to make about us relates to the scientific discipline, and not the country, to which we belong. It, therefore, must be difficult, when a scientific board in United States reviews an application from a Canadian who might conceivably be president of an American scientific society to which members of the review board belong, to think of the applicant as being foreign.

Nevertheless, foreign aid is foreign aid and the amount of it that the taxpayers of the United States can and will provide is not unlimited. If

Canada takes a substantial share of the amount that is available, it may mean that there is less for the underdeveloped countries whose need is greater than ours. Canada is not an underdeveloped country.

It could, of course, be argued that by making funds available to our scientists, United States is merely obtaining more skilled man-power to help achieve the aims of their research programs. It could also be argued that help has not been a one-way flow, for in the past very substantial numbers of graduates from our Universities, trained in scientific disciplines by the taxpayers of Canada, have moved across the border to provide U.S. with a considerable supply of trained personnel for research and medical practice. Nevertheless, we cannot be sure that these or any other reasons will prevail on U.S. taxpayers so that they will continue supporting our research effort as substantially as they do now. It may be that a lack of more substantial support from our own government agency is placing such Canadian medical research as now depends on U.S. support in a precarious position.

Another source of funds for medical research in Canada has been the special interest bodies. The Canadian Cancer Society deserves great praise in this connection for over the years it has raised millions of dollars from the public and most of this has been channelled through the National Cancer Institute of Canada to support research on cancer. In 1961 the Canadian Cancer Society raised slightly

more per unit of population than the American Cancer Society. In some years the amount of money made available from the Canadian Cancer Society for cancer research has almost equalled the amount for all kinds of medical research distributed by the predecessor of the Medical Research Council. The Heart Foundation now makes substantial funds available for research in Canada and there are many other special interest bodies which raise smaller sums for the support of research in other special fields. Together the funds from U.S. and those raised by the special interest groups probably equal the funds provided by the Medical Research Council; this surely indicates that our government is not assuming as much

responsibility in this field as it should.

It is, of course, typically Canadian to proceed slowly in recognizing and encouraging creative talent that emerges here, whether it is in the sciences or the arts, at least until it is recognized elsewhere. It is not typically Canadian, however, to let someone else pay for something that we should pay for ourselves. So, perhaps the fact that our Canadian scientists are able to obtain such extensive support for their work from United States will reassure members of our own government about the quality of creative talent for scientific research in Canada and even lead them to take the view that we may have here a great natural resource; one that we could and should develop ourselves.

...In which we apologize to 61 O.A.C. Alumnae

MISS SARAH BLADEN, first woman to graduate *from the engineering option* of the B.S.A. course at Ontario Agricultural College, received her degree last May. In reporting this achievement, VARSITY GRADUATE, carelessly and we fear unforgivably, omitted the engineering qualification.

The first woman to become a Bachelor of Science in Agriculture from O.A.C. was Mrs. John Steckle who graduated in 1921 and who now lives on a farm near Kitchener. Her husband was a graduate the previous year. Her son, who now runs the farm, graduated in 1952 and her daughter, who got her degree at Macdonald Institute, is doing nutrition work in Ghana.

After Mrs. Steckle have come sixty others, and twenty-four young women were in the four-year course this year.

A number of the women graduates have gone into teaching, research, and other fields. But most have married O.A.C. Alumni. "They live in Ontario farm homes from which have come a second generation of O.A.C. graduates," President J. D. McLachlan said recently.

"There is," he added, "a family tradition about the O.A.C.!"

Erratum (II)

D. R. Wardlaw, Q.C., and W. J. Whittaker, Q.C., formed their own law firm on December 31, 1961. In our Spring issue we did not delete their names from the professional card of the law firm with which they had been associated previously. The Editor apologizes for this incorrect listing to the firm of Wardlaw and Whittaker and to the firm of Tory, Arnold, DesLauriers and Binnington.

34 YEARS



Bruce Kidd in training

IN 1927, J. Wallace Graham, a very lean young Dental student, ran three miles in 15 minutes and 26 seconds for a new intrafaculty record at University of Toronto. The time was posted on the record board at Hart House where it stayed to challenge successive crops of college athletes for 34 years. Finally, last autumn, there arrived on campus the first student who could do more than come close. This was Bruce Kidd, "a youngster who is out of this world".^{*} Bruce's time: 14 minutes 29 4/10 seconds.

Both record-breakers were honoured at the University College athletic dinner in March. Dr. Graham, though never on the College rolls, became the first person to receive an honorary University College First Colour. This was a tribute to him both as athlete and scientist. Bruce Kidd received (from Dr. Graham's hands) the cup awarded annually by University College to its outstanding freshman athlete. In a third ceremony, Dr. Graham presented the Wallace Graham Trophy to University College, the 1961-62 intrafaculty track champions.

^{*}So described by the Louisiana runner, Fred Norris, who ran second at Hamilton April 20 when Bruce broke both Norris' Canadian record and John Kelley's U.S. record in a 15-mile road race.

It was inevitable that some day someone would run three miles faster than young Wally Graham

THE RECORD STOOD



Dr. Graham and Bruce Kidd examine the record

Young Wally Graham did well in his dentistry course. But as he reached the higher years the idea of becoming a medical doctor intruded and finally prevailed. On graduation as a dentist he immediately enrolled in Medicine. To pay his way he practised dentistry—in a borrowed office in the city on weekends and in mining towns in summer. Today he is the President of the Toronto Academy of

Medicine, is in charge of the Arthritis and Rheumatism Disease Unit in the Faculty of Medicine, is associate professor of medicine, associate professor in dentistry, and senior physician to the Toronto General Hospital.

Dr. Graham is also one of the President's appointees to the University's Athletic Directorate and is on the Athletic Advisory Board.

Winogene Ferguson



The Master of Massey College ushers us safely past the sign "Staff Only"

ROM REVISITED: *Teaching and research are paramount*

ROBERTSON DAVIES

FOR THIRTY YEARS I have been an ignorant admirer of the Royal Ontario Museum. I made its acquaintance as a schoolboy, when I wandered through its galleries to see what I could find that was grist to the mill of my imagination. As time passed I came to know other museums in several parts of the world—became, indeed, a haunter of museums—without ceasing to look on the ROM as my

'home' museum. But this year, because it is the ROM's Jubilee, and because I am myself joining the University community, I thought it was time to take a closer look at this place which has given me so much entertainment. There were, I knew, large parts of it that I had never visited, and parts of unknown dimensions which I could not visit because they lay behind doors marked 'Staff Only'. How vast my

Author, playwright and publisher, Robertson Davies is Master of Massey College which opens its doors to graduate students in 1963. The foundation stone will be laid by H.R.H. Prince Philip at 12 noon this May 25.

ignorance proved to be I almost blush to tell.

My notion of museums was rooted in a child's book called "Rachel and the Seven Wonders." It was about some children who, wandering in the British Museum, met a professor—eccentric, as professors in books invariably are; real professors, as we all know, are monuments of practicality and common sense—and under his guidance made the acquaintance of the Seven Wonders of the World. A romantic concept of a museum was embedded, fossil-like, in my mind.

This romantic attitude toward the ROM became modified, as time passed, by something that might very loosely be called scholarship. Scholarship, that is to say, in that certain objects in the museum could set me off on pleasant paths of reverie from which I might possibly return with a good idea or a fresh insight into something that interested me. Because my primary concern was with the theatre, the costumes, and the designs by Picasso, Braque and Derain were a great draw. So was the elegant eighteenth century Derby figure of James Quin in the character of Falstaff; to gape at this spirited little theatrical portrait in china for a few minutes does more than an hour's lecture to call up within me the feeling of the theatre in the age of Horace Walpole. So also with the collection of musical instruments. The assembly of dancing-master's 'kits', the double-bass that belonged to Dragonetti (first virtuoso performer on this much misjudged instrument) the Welsh

triple-stringed harp that recalls to us the last utterances of individually Celtic music—these are evocative objects to anyone who looks at them with the eye of love and understanding.

Nor were these my only enthusiasms. Paul Kane's portraits of Indians laid their spell on me, as I suppose they have on thousands of Canadian children. In them we see, a little dimmed by a limited painting talent, the real face of the aboriginal inhabitants of our country. These are Indians who have not been romanticized; in their eyes we meet that flat yet penetrating glance which still awes us when we encounter it, for instance, in an Eskimo; these are the eyes of men whose intellectual and spiritual life may be greater or less than our own, but is unquestionably different. The ROM has about three-quarters of all Kane's work, and interest in it is growing. It is not impossible that before the end of the century this collection of pictures will be one of the Museum's principal glories.

These things I knew, just as I knew the little theatre in the Museum's basement, and the small restaurant in which the tired gazer, muddled with marvels, may turn his eyes on one of the most reassuring of all spectacles—humanity eating, forgetful of self.

Most people, I suppose, approach the ROM just as I did, growing fond of things that have special meaning for them, and rarely turning an eye upon the rest. It is a perfectly good approach, and one of the Museum's tasks is to foster it and gratify en-

thusiasms of every sort. But a discussion of it does not begin to explain the ROM's work or its importance in the world.

For it is a museum of world importance. It is the largest university museum in existence, though its significance is not a question of mass, but of quality. Nobody will be surprised to learn that its Canadiana collection is the world's finest, but it was surprising to me, at any rate, to discover that its Greek vase collection, and its Egyptian collection, are of widespread renown. Its Chinese collection is known and envied among museums the world over, but the Canadian public is not so well aware that its collection of textiles is of extraordinary quality and extent. Its display of mammals is not remarkable, though it is good; the strength of the ROM in this realm of life sciences lies in its collections of birds and fish, and especially in its awesome assembly of dinosaurs.

Its mineralogy collection alone would suffice to make it a museum of note. It ranks with the Harvard and Smithsonian collections as one of the five greatest in existence. Knowing nothing of mineralogy I had assumed that this collection was static. Nothing of the sort; not only does it contain specimens which are unique (for minerals disappear, and new specimens cannot be found) but it discovers new minerals. In 1961 the extraordinary number of five hitherto unknown minerals was identified in this Department. Nor are these specimens all found by field workers;

they are obtained by purchase or exchange, and some of them command high prices. If it should ever cross your mind to acquire a boulder of jade, for instance, do not try to gratify your whim while your bank account is low. Pieces of rare ore can cost as much as prized gems. And speaking of gems, the ROM has a superb array, ranging from those that are merely dazzling to the ones which are truly beautiful.

Indeed, in all the earth sciences, the ROM has distinguished collections. Because Canada is one of the great mineral producing countries of the world, the ROM is in a particularly strong position to offer specimens to museums elsewhere. They are not offered for barter, but as part of the advancement of science. However, gifts beget gifts, and when museums abroad have specimens of particular interest, they remember the generosity of the ROM.

When I visited the Museum as a boy, or a very young man, I was usually the youngest person in sight. Of recent years I have been conscious of much younger visitors than I then was, not only in classes, or as knots of students obviously from the University or the Ontario College of Art, but singly or in twos and threes. Some of them, like myself in an earlier day, are obviously looking for anything which catches the eye, illuminates a book that has been read, or sets the imagination to work. But there are extremely purposeful young people to be seen in the ROM. Some of them are hobbyists in mineralogy. This

science casts its spell early in life; there is a group of boys and girls ranging in age from eleven to fifteen which meets every Saturday morning for lectures on the elements of mineralogy.

Amateur enthusiasm is widespread; it ranges from the timid, who buy their first set of mineral specimens at the shop beside the main door, to knowledgeable men and women who bring to the curators specimens they have found on their own field expeditions. New and unique specimens frequently appear in this way. (They appear in all sorts of ways; a curator who brought a lump of rock to a colleague as a joke was astonished when it proved to be a hitherto unknown mineral.) As well as these enthusiastic and usually well-informed amateurs, the mineralogy department also receives visits from distinguished men of science, for whom laboratory facilities are provided when they need them.

These laboratory facilities belong to the part of the ROM which is not accessible to the public. An important museum, like an important iceberg, is mostly out of sight. The Life Sciences Division, for instance, can display only a fraction of what it possesses. The ROM is the third largest in the Commonwealth, but large mammals, fully mounted, need more space than even a big museum is likely to have, if they are to be shown to advantage. A lion, which is not big as animals go, needs roughly the room of six lions if it is to be properly seen.

There is the problem, also, of keeping mounted animals in good condition; they fade in daylight. Further, it is an expensive matter to secure a fine specimen, bring it from its native habitat to the museum (usually in cold storage) remove and prepare its skin, and re-set the skin over an armature which has been carefully padded with rubber in order to simulate the musculature of the living creature. Taxidermy is not the flourishing trade it used to be, and museums have to find people who have an aptitude for this work, and train them on the spot.

The preparation of a skin may involve a period in a museum adjunct that would have delighted Dante, or Edgar Allen Poe; it is a pit in which the skin and carcass are placed to be thoroughly cleaned by hundreds of thousands of special beetles; they do the work more thoroughly than any human agency. A skin, when prepared, is unlikely to be stuffed and mounted; it is stored flat, to be consulted when necessary. This form of treatment applies to mammals, birds and fish; reptiles do not keep well, and the ROM has devised a method of preserving them for study which has been widely copied elsewhere.

Visitors who have not given the matter much thought sometimes ask why it is necessary to destroy so many animals in order to exhibit them. The answer is simple: Nature would destroy them, but the museum immortalizes them; the study of animals in their live state cannot provide all the information that scientific in-

(Continued on page 92)

Tow



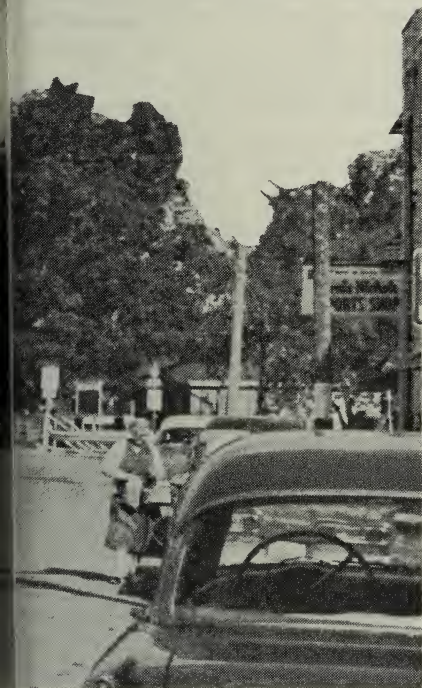
FROM BOBCAYGEON to the nearest dentist in Fenelon Falls it is 12 miles. The next closest is nearly twice as far away in Lindsay.

In a town without a dentist of its own, regular examinations are onerous and toothache is endemic. It is common practice in Bobcaygeon to ignore

teeth until they have to be removed. As a result, one 17-year-old girl and several other young people just out of their teens have full sets of dentures.

Bobcaygeon's problem is exceptional only in degree: there is scarcely a community in Canada with enough dentists to serve the popula-

Without a Dentist



The aching teeth
of Bobcaygeon children
and their parents demonstrate
the urgency of Dean Roy Ellis'
call for three more dental schools
and the opportunities awaiting
those who enrol in them

IAN MONTAGNES

tion. Each spring the University of Toronto Faculty of Dentistry receives scores of letters from town councils and civic groups seeking young graduates for their areas. Three separate appeals came from Bobcaygeon in 1961, from its Chamber of Commerce, one of its medical doctors and a pri-

vate citizen. In 1962, the appeal was renewed.

Bobcaygeon, Hub of the Kawarthas, is a town of 1,200 in one of Ontario's loveliest resort areas. Summer visitors, swelling its population by 400 per cent, pour more than \$350,000 into its economy each year.

It supports two medical doctors comfortably. Until about 15 years ago it had a resident dentist with all the practice he could handle, and even after he left another used to drive over from Fenelon Falls twice a week. Since 1956, however, the dental office over Morris Clark's cigar store and barbershop has been empty.

"What does it mean to be without a local dentist?" I asked the people of Bobcaygeon.

In the first instance, they spoke of inconvenience. A 30-minute appointment with the dentist may easily stretch into half a day of preparation and travelling.

Mrs. G. O. Martin has four youngsters, three of them under school age. Every six months, when it's time for her regular dental examination in Lindsay, she must arrange with her husband, who works in Fenelon Falls, to leave her the car; she must also find a friend to look after the baby; ask a neighbour to watch for the seven-year-old in case she isn't back by lunchtime; and then drive 21 miles each way with the other two children. While she is in the chair, they play in the waiting room. If further attention is needed, the whole process must be repeated.

Lindsay's dentists serve so large an area that even with seven of them, patients usually have to wait three months for anything but emergency care. Once, during Mrs. Martin's appointment, the dentist checked the children's teeth and found four cavities: it was 12 weeks before he could start on them and six months before

the job was finished. It is best to expect the worst. One mother makes three appointments every six months; so far, they have always been needed.

If there is no car in the family, or if the husband must have it for work, a trip to the dentist takes all day. The only bus out of Bobcaygeon leaves at 7.40 a.m. and returns from Lindsay at 6 p.m. The alternative is a taxi.

At this point, inconvenience becomes costly, in cash for adults, in education for children.

David Hilton, principal of Bobcaygeon's modern public school, considers dental appointments the second highest cause of pupil absence, next to illness. In one recent term, a Grade 8 student lost 22 half-days for this reason.

Another, a 12-year-old boy, broke a tooth while sliding on the schoolyard ice. Insurance paid the dentist's bill, but the youngster missed three days' school going to Lindsay to have the stump extracted and a false tooth fitted. His mother, who had to accompany him, lost three days from her business.

Even four hours away from work can be a serious matter in an economy geared to three or four months' operation in a year. During the tourist season, workers can't afford to take time off for dental treatment, and employers can't afford to lose them.

Lillian, a waitress at Bobcaygeon's biggest hotel, developed a bad toothache towards the end of last summer. She could have taken an hour to have it treated, but a full day was out of the question. For a week she packed

the tooth with pain-killing poultices until the abscess broke. Then she decided to leave the tooth until it caused trouble again.

No one can assess the pain suffered in a year by people like Lillian. Mel Smith has someone in his drugstore every day patronizing the shelf of anaesthetic pills, poultices and jellies.

Toothaches are a part of life in Bobcaygeon. "It's second nature here to let the rot set in, get the teeth yanked and a false set installed. It's just an attitude that has developed," I was told.

In the final analysis, the real sufferers are not those who put up with inconvenience to visit the dentist, but those who won't. Distance, cost, and difficulty in getting appointments all exacerbate an already universal problem: how to educate people to visit their dentists regularly so that trouble can be caught in time?

"My son-in-law tried to get an appointment," one man told me. "When he learned he'd have to wait three months, he said to heck with it. He hasn't been since. I guess he's waiting till the tooth is rotten."

Not everyone takes this attitude, but even new residents often slip into the pattern. People who used to live in large cities said their visits to the dentist have dropped since moving to Bobcaygeon, from once every six months to every other year, or when a tooth hurts.

Parental neglect victimizes the children. Without proper home education, without a local dentist familiar to them, many Bobcaygeon young-

sters are more than normally reluctant to seek dental care. The Grade 2 teacher told me of one little girl who had suffered with a toothache for days because she had no way of getting to the dentist, and even then refused the teacher's offer of a drive to Lindsay. The tooth eventually was removed by a local general practitioner. The girl still is not getting care to prevent further trouble.

As Medical Officer of Health, Dr. W. D. Thomas visits 22 district schools to give physical examinations. Because of the shortage of dentists, he inspects the youngsters' teeth at the same time. Perhaps two-thirds of them, he guesses, go to the dentist on his advice. Dr. Frank Moran, Bobcaygeon's other G.P., also looks for gross abnormalities in his young patients' mouths. Both doctors do some extractions.

"I got cases of dental forceps from my predecessors," said Dr. Thomas, a Bobcaygeon native who has been practising there since 1933. "The first tooth I pulled wasn't a beautiful job—I'd never seen it done before. But I learned from experience."

Both doctors noted that poor oral health has led to serious ailments elsewhere in the bodies of their patients. Arthritis is a common example. A more extreme case is that of a Bobcaygeon girl, one of four children in a clever family, who let her teeth go through neglect, fear or lack of facilities until multiple abscesses developed. Her general health deteriorated. Eventually a brain abscess appeared, directly related to those in

her mouth, and she became mentally incompetent.

Dr. Robert MacLelland, the nearest dentist, would like to carry on an educational campaign in the schools and with parents' and civic groups, but he hasn't time. Fenelon Falls had two dentists until 1960, when both died. When Dr. MacLelland opened an office there last May, his appointment book was already filled for a month. By September, he was tied up solidly for seven weeks.

"There just isn't the dental supply to meet further demand," he told me. "It would be like advertising a product that is already sold out." He arranged with one older dentist, ready for semi-retirement, to join him on a part-time basis this year.

The people of Bobcaygeon are unhappy and a little bit puzzled about their failure to find a dentist. "Teeth aren't really in my jurisdiction," the Baptist minister remarked to me, "but they do keep cropping up in conversation. Everybody was very happy when we thought a man was coming."

Most people feel the town could support a dentist. The local bank manager and the Chamber of Commerce were both prepared to give reasonable assistance to a new man in his first years. Reeve Claude Bottum was uncertain how much help Town Council legally could give, but thought it would do what it could.

Bobcaygeon has shown in other fields that it knows how to get what it wants. It recently built a \$125,000 community arena for minor hockey and other sports, the biggest of any

comparable town in the area. Two years ago, the moribund Chamber of Commerce was revived under the presidency of Bill Gordon, a 27-year-old who runs the town's biggest boat repair and rental outfit; membership jumped quickly to 104, almost as large as Lindsay's.

No one thought the town could support two doctors when Dr. Moran arrived from Toronto eight years ago. From his own experience, he has no doubt that a dentist could do well. "Young men seem to feel they can't make as much money in a small place, but they're wrong. They can work themselves ragged."

From its location, Bobcaygeon has special amenities for any man who enjoys hunting, fishing and other outdoor sports. Several professional and business men who have moved there in the past ten years said they would never return to city life.

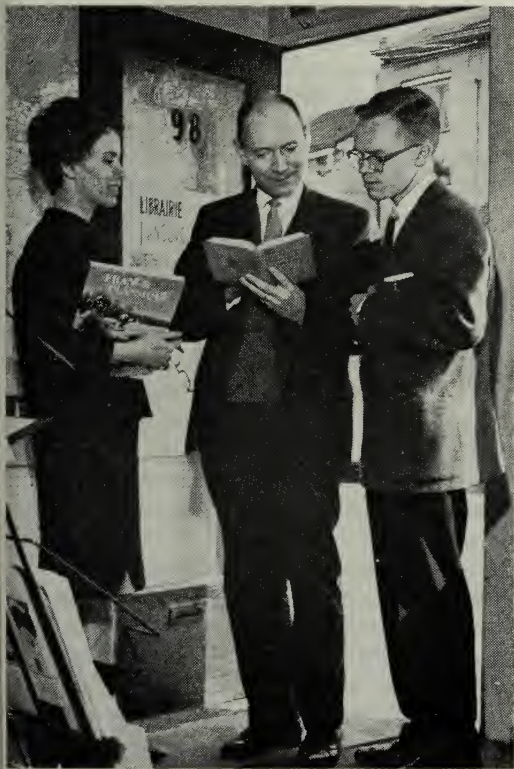
The real obstacle which Bobcaygeon, and hundreds of communities like it, face is the national shortage of dentists. Canada has about half as many dentists per capita as the United States, and there is no hope for immediate improvement as Canada is turning out new dentists at little more than half the U.S. ratio.

This year, after an intensive recruiting campaign, the pre-dental freshman class at University of Toronto is at capacity; in a few years Toronto will be graduating 125 a year, as many as Dean Roy G. Ellis feels a single school can handle. The country needs more schools, he says—three more before 1980.

ANDRÉ LAURENDEAU, right, the Editor of Montreal's crusading *Le Devoir* and a knowledgeable observer of the Quebec scene, gave this year's Gray Lecture at University of Toronto. His title was "The Meaning of Present-Day Separatism". Extracts covering the main points of his paper comprise the second of two articles in the following section. The first article has been condensed from a series of five written for *Les Nouvelles Françaises* by Professor Michel Sanouillet of University College who is seen in the photograph below.



Separatism: How Real Is the Danger?



PROFESSOR SANOUILLET is flanked by his wife and one-time student, and by R. A. Taylor, a colleague in the University College French department. Mr. Taylor was translator of the article which starts on the next page. The Professor is president and his wife is the editor of the monthly newspaper which was the original publisher. Only French-language paper in Southern Ontario, *Les Nouvelles Françaises* is now four years old. Its mail address is Box 511, Terminal A, Toronto. The publishing office is at 98 Gerrard Street West. Also on these premises is *Librairie Française*, a shop given over to French books and periodicals. President: Michel Sanouillet; Secretary-Treasurer: Mrs. Anne Sanouillet.

Coming to Grips with Separatism

MICHEL SANOUILLET

TO SCOFF at separatism is to close one's eyes to the fact that it could quite well become a reality, since the creation of a new state depends more on emotion than on logic. It is all very well to point out that separatism would be economically undesirable, that it would be illegal, that the majority of the French-Canadian population is more interested in security than in liberty. But it is only too easy to point to examples in history where the intoxicating ideal of liberty has taken precedence over bank accounts and standard of living; it is obvious that the history of all nations is made up of a succession of "illegal" transformations (think of the American or French revolutions, think of Cuba or Algeria); finally it is painfully true that these transformations can take place without the active support of the majority—the fact that separatist ideas are strong only in Montreal makes the situation no less one to be reckoned with. Yes, it could happen!—Quebec could well become independent, could even resort to armed revolt, and the sooner we remove our heads from the sand and come to grips with the true situation, the better the chances are that a satisfactory agreement may be reached.

The ideas to be presented in the following lines are based upon the assumption that any efforts are to be praised if they help to ease a tension

which might easily degenerate into open conflict.

No one would deny that English Canada and the United States are very much alike in their way of life and their basic preoccupations, or that, in a world which is moving toward larger groupings of states, it would not be astonishing to find that we were moving gradually toward the day when we might add a few more stars to the American flag. But it is just as true that a similar force is drawing English Canada in the opposite direction—toward a fusion with French Canada. Our ultimate choice seems clear: either Canada will achieve a minimum of unity and national identity by taking advantage of its opportunity to become a truly bilingual country, and thus different from the United States, or Quebec will demand and receive its independence, leaving a dismembered and weakened Canada to fight the inevitable forces of American assimilation. We can see no third choice, and if English Canada does not make up its mind soon, French Canada will make it up for us.

A satisfactory Canadian union must be made up of two distinct and independent nations, joined politically in a loose federation, but held together basically by economic necessity, similar to the union being negotiated at present among the Common Market countries. To achieve such a union, English Canada would have to volun-

tarily make a few basic concessions, which would undoubtedly be unpopular at first, but without which a true partnership would be unthinkable:

(a) Accept the principle of political independence for French Canada, sufficient to allow for linguistic and psychological health. True negotiations may only begin when the French-Canadians have been restored to a position of human dignity, and are accepted as equal partners, acting of their own free will.

(b) Forget petty squabbles over bilingual cheques and street-names. If Canada is to be bilingual, then all official business matters should be bilingual *without discussion*.

(c) Act immediately, without waiting for initiative to come from the federal government. To achieve any worthwhile results, initiative must come first from individuals, then from municipal, provincial and finally from federal levels.

No amount of political action can have a lasting effect if the general public takes no interest and makes no effort. In particular, non-French-speaking inhabitants of Ontario must accept the intrusion of French into their private lives—not as one of the “frill” subjects in high school, but as a basic training from elementary school on, designed to bring about practical bilingualism on at least the higher levels of our society. This implies the mastery of one language, and the ability to understand perfectly the other, a situation which would allow us to do away with the costly and inefficient monster of translation.

The situation at present is already better than it was ten years ago, due in part to the example set by Canadians of a linguistic background neither English nor French, who are accustomed to the manipulation of languages, and have achieved a complete command of French. Many of these people enter high-school teaching, where they can instill a genuine feeling for French into their students, not merely the rudiments of grammar. Once the process is well under way, we may expect a snowballing effect, in which better students become superior teachers, producing still better students. It has already become evident that French in Ontario is rising again to its rightful place in the culture of the higher social levels. The increasing number of adult classes in French, and the interest demonstrated by groups of businessmen, indicate that the general public, in Ontario at least, is ready to co-operate in a plan aiming at some degree of practical bilingualism. It remains for the various organizations of business and government to encourage this tendency. Certain national corporations have already pointed the way by deciding that all correspondence be carried out in the language of the writer. It is to be hoped that this first step will develop to the point where a good knowledge of French and English will be one of the basic qualifications for promotion to positions of importance in any national company.

On municipal levels, the field remains entirely open for any type of

inter-city co-operation; Toronto and Montreal could establish a very interesting precedent by forgetting their perennial rivalries and setting up a member, or even a special committee, to foster exchanges and understanding between Ontario and Quebec cities.

It is, however, on the level of provincial government that the most fruitful innovations could be made. Mr. Robarts has already pointed out that Ontario and Quebec control 80 per cent of Canada's industrial production, and that, in effect, Canada's policies are determined by the desires of these two provinces. If Ontario and Quebec could reach a satisfactory level of mutual understanding and co-operation, the rest of Canada would have to follow suit, and the whole problem of separatism would fade away. Here are a few suggestions:

(a) A "summit" conference between Premiers Robarts and Lesage to formulate the bases of permanent inter-provincial contact, such as the creation of an Ontario ministry for French-Canadian affairs, modelled on the very dynamic ministry of Mr. Yaremko.

(b) A hard look by Mr. Robarts at the teaching of French in Ontario. There are about 600 French schools in Ontario, but all of them in areas with French-speaking majorities, and largely separate schools. Consideration must be given to the formation of bilingual *public* schools on the elementary and secondary levels, not only for the use of French-speaking children, but also for those whose parents perceive the advantages of an

intelligently-planned bilingual education. The problem of finding competent teachers is far from insoluble. Besides the steady rise of fluency among university students, temporary measures such as exchange plans with French-speaking countries would ensure at least a good start. Students intending to teach French should then be obliged to spend at least one year of their studies in a French-speaking environment, with financial help from the provincial government. Finally, the fact must be accepted that the best time to begin the teaching of French is in the elementary schools, if not in kindergarten.

(c) A "Quebec House" in Ontario similar to the one established recently in Paris. It is intolerable that it should be easier to find a Nicaraguan flag in Toronto than the fleur-de-lys emblem of our neighbour. A well-chosen commercial attaché could render inestimable services and channel all sorts of interprovincial exchanges.

The federal government can also do a great deal to ease tensions and to help Quebec gain the necessary feeling of equality, even though its role in these matters would necessarily be reduced in a looser federation of the two nations. The greatest potential for federal cooperation lies with the CBC. The excellent FM network, in which the speakers pass with ease from English to French, could serve as an example to follow in the creation of similar facilities for AM and television. It is true that CJBC in Toronto is going to broadcast in French a few hours weekly, but the attitude

of the CBC Board of Directors seems too much like that of an indulgent benefactor throwing a few crumbs to pacify vociferous beggars, whereas it should be openly recognized that the inhabitants of Ontario, whatever their language, have a perfect right to expect these facilities. Of course it is necessary to proceed cautiously with the implementation of such new services, but the goal of an all-French CIBC should be directly stated from the start. It must be obvious to the CBC that, with the ever-increasing competition from private stations, the only real prerogative left to the CBC is to be a link between the two Canadas. The question of a "new deal" for

Quebec has grown too large now for us to hope that it will die away, or that any simple solution will be found. Perhaps the alliance of the traditional political sense of the Anglo-Saxons with French idealism will be able to form a new and better Canada. If English Canada does not consider the necessary effort to be worthwhile (which is quite conceivable), then it must become reconciled to the idea that Quebec will one day go its own way, at the cost of undetermined upheavals in matters economic, political, or even military. But whatever the choice may be, it must be made soon. We must come to grips with separatism!

The Meaning of Present-Day Separatism

ANDRÉ LAURENDEAU

OUR COMMON HISTORY BEGAN with a military event. A few weeks ago, it was expressed this way to me by an English-speaking Canadian:

"These fellows"—meaning the separatists—"should remember who won the Battle of the Plains of Abraham."

The separatists remember almost too well who won that battle. What they want is to suppress the consequences of the Defeat. History, or so it seems, is strongly alive among us.

I

Sixty-seven years ago a journalist who had some prestige, J. P. Tardivel, wrote a separatist novel, "Pour la Patrie". The book had no literary

value, but its purposes were very clear. Tardivel often expressed them in his weekly paper, *La Vérité*. He was convinced that Confederation had been, on the side of French Canada, a big mistake, because our nation was in danger of disappearing in the new system, where it was nothing more than a minority. Henri Bourassa, who believed in Canada, strongly opposed this point of view, which could not succeed during the Laurier era.

Later, in 1917, came the first conscription crisis. A young liberal member in the Quebec Legislative Assembly, J. N. Francœur, moved a separatist resolution, which was put aside. It was only an emotional re-

action to a deep political and national crisis.

In 1922 the problem was studied more seriously by a group of intellectuals under the guidance of the then Abbé Lionel Groulx in a Montreal periodical called *l'Action française*. Groulx and his friends thought that the British Empire and Canadian Confederation, then both deeply involved in major crises, would explode. If both disintegrated, what should be French Canada's choice? University professors, men of action, clerics (one of whom was to become Cardinal Villeneuve) all said it should and it could be political independence. Their series of articles, later published in a book called "Notre avenir politique" (Our political future), made some noise at the time, but I think it had no repercussions on the politicians in their day-to-day activity. Separatism was in this shape or absence of shape in 1934, when a group of young men called Les Jeune-Canada (to which I belonged) rediscovered it. The Economic Depression and the R. B. Bennett administration were then our main problems. Of course, we were not happy with the situation, and tried to explain it to ourselves. We found that French Canada exerted no real influence on federal politics; that, as a group, we were poor, and were considered as "slaves" in our own province; and we also found that our own provincial government had given away the natural resources of the province to foreign capital, which exploited the human beings as well as the resources. We saw with astonish-

ment that the rights of the French language were not truly recognized in Ottawa. At that moment, with a few of my friends, I became a separatist, and wrote a rather lyrical pamphlet on the subject. But, around us, even among nationalists, people kept saying that it was a dream that no one could ever realize. I lost this dream the year after (1936) while studying in Paris.

At the same time another group, in Quebec City, took the same ideas, and expressed them much more precisely and aggressively. They published a weekly paper called *La Nation*, under the leadership of Paul Bouchard. Separatism was then linked with rightist and extreme-rightist ideas, like political corporatism. It was never very strong, and had its small successes only among youth groups. But it was the first time, during Confederation, at least to my knowledge, that an articulate group proposed to the French Canadian people, as a policy and not only as a remote ideal, the creation of an independent State in Quebec. The movement disappeared when World War II began, and I thought it was forever.

But it came back five years ago. Then Raymond Barbeau founded *l'Alliance Laurentienne*, which has some ideological links with the late *Nation*. Mr. Barbeau recently published a book, "J'ai choisi l'indépendance", an attack against the political thought of Henri Bourassa, which has been fairly successful. Another separatist movement, directed by Raoul Roy, is leftist and very small. But the best

known, because of Marcel Chaput, its new full-time president, is called the RIN (Ralliement pour l'Indépendance Nationale). Mr. Chaput has also published a book, "Pourquoi je suis séparatiste", which is certainly the best thesis written on the subject, and has just been translated into English.

II

These three groups put together never claimed to have more than a few thousand members, most of them rather young. But it soon became clear that their influence was much wider than their membership.

Two Montreal newspapers, *La Presse* and *Le Devoir*, held polls on the subject and found that separatists, among their readers, were much more numerous than they both had thought. Last Fall, a professor of political science at the University of Montreal organized a more serious poll in the Montreal area. You can summarize their findings this way: among French Canadians who know what separatism means—and that, in Greater Montreal, is four out of five, a very surprising figure—you will find:

almost one fifth, who would choose independence;

almost two fifths, who accept Confederation, if more autonomy is granted to Quebec;

a little more than one fifth who favour the *status quo*;

the last fifth has no opinion, or gives different answers.

So, according to this inquiry which claims to be scientific, in the Montreal area, only one French Canadian out of

five is satisfied with the present political situation. Two demand a reshaping of Confederation. And one favours independence. (A rapid poll by *Le Magazine Maclean*, the French edition of the Toronto *Maclean's*, gives one separatist out of four French Canadians in many cities of the province.)

Are these figures accurate? It is extremely hard to say. I still have the feeling that the movement is very weak among workers and farmers, who constitute the bulk of the population. But it is only a feeling. On the other side, among artists and intellectuals, it is surprisingly strong. In the middle classes, and certain groups of the small and middle bourgeoisie, you will find many separatists: this can be felt almost physically. . . . And the wave is getting bigger: never, until now, had we seen one so big and so strong.

III

Where does it come from? First of all, from history. Here is a boy or a girl in their first years of high school. They study the history of their country, which begins with a century and a half of French regime. This boy and girl are French by culture and language and will identify themselves with the people of this period, which is a long struggle between French and English North America. Then come the last battles, all of which—except the most important one—are French victories. Certain individuals find these stories more exciting than a good hockey game. They know to what team they belong. At times, they could

shout and burst into tears or into applause. The boy and the girl become these French generals, these French adventurers or missionaries, these French *coureurs des bois* or *habitants*, these soldiers or militia men. The final defeat will never become an accepted fact.

When you are brought up inside the community, you speak the language of your parents. The family speaks French; so does the street in most of our cities; so do your schoolmates and professors. At some moment you meet *l'autre*—the Other One; he speaks English. The experience may be good or bad, but it gives you the feeling of your own identity. From now on, you know that you belong to a group and to a tradition. Then, if you go more deeply into the problem, you learn that you belong to a culture. You understand that the group is small, the tradition very old, and the culture great. That is why Quebec is not a province like the others.

Later, the citizen will choose between many attitudes, especially if he lives in a city like Montreal. Here are four: one is to forget the problem, as much as you can, and live a day-to-day life. Another is to consider the French language and culture to be a real handicap in North America, and to decide that you will cut these roots within yourself and more radically in your children by sending them to English schools. Or you may decide to compromise and be content to survive as a small and rather poor minority. The fourth attitude will be to consider French culture and lan-

guage as an asset, and try to gain, for your group, better political, economical and social conditions of life—life, not survival. The last attitude, when it expresses itself in conscious and especially in political terms, is French Canadian nationalism.

There have been many brands of nationalism in French Canada. One says: first, we are Canadians, but we also are French Canadians; or, more strikingly, our way of being Canadians is to be French-Canadians: this is Henri Bourassa. The other says: first we are French-Canadians, but we also are Canadians; we are interested in Canada inasmuch as Canada lets us live our own life: this is Groulx. It is not separatism, but it can very easily lead to separatism. The first thesis will speak of one Canadian nation, composed of two principal groups; the second thesis will speak of two nations inside one country. The title of one of the first books of Lionel Groulx, published more than forty years ago, spoke of "La naissance d'une race", The Birth of a Race. Many years before, a French political writer, André Siegfried, who was not a disciple of Gobineau, had written an essay about our Country and called it "Le Canada—les deux races"—Canada, the two races. That is just a question of vocabulary; what was meant by the word "race" is almost the same reality which is designated today by the word "nation". Both express the same consciousness of belonging to the same social and cultural unit.

Then, another question arises: if French Canadians constitute a nation

why should they not possess all the institutions that are important or necessary to the life of a nation—and the most essential one, which is a Sovereign State? Some will say we are too weak to create a State of our own. Others will answer we are weak because we do not possess such a State. But I do believe that separatism exists, as a desire, inside the minds of nearly all French-Canadians. This desire has been repressed, brushed out, weakened, or it was absorbed by other political desires or economic ambitions; it may be hidden, or asleep, but it is there.

One man in the course of his life may have experienced all the four attitudes I have tried to define. For most of his existence, he has forgotten all these problems, or accepted the *status quo*; at times, he has tried to become as much of an Englishman as he could; during national crisis, he returned to his basic French Canadian reactions, and expressed himself rather violently as a nationalist.

I don't pretend that French Canadians were right in their attitude about Canada's participation in the war. I am even ready to admit, for the purpose of this discussion, that they were wrong. But if it was a mistake, it was the mistake of nearly the whole group; the whole group favoured a certain policy, which it did not obtain. So the frustration was collective.

In September 1939, it was assumed that, on the whole, the English-speaking majority was in favour of participation in the war, and that French Canada was on the side of neutrality.

The Minister of Justice, Ernest La-pointe, who spoke in the name of Quebec inside the King cabinet, talked of a pact, or even, of a contract between representatives of the two communities: French Canada would accept participation, but English Canada would accept not to impose conscription. King himself, though he never spoke of a pact, promised there would never be any conscription for overseas service, and everybody knew that this engagement was taken because of the French Canadians, and very specially directed to them. Then, the war became more and more dramatic. In 1942, King felt himself obliged because of his political opponents to ask the people of Canada to free him from his conscription pledges. The question then arose in Quebec: what is happening to the Pact of three years ago? How can the Prime Minister ask the whole of Canada to suppress the validity of a word that he had given to the minority? The results of the plebiscite were sharp: English Canada—that is, the majority—voted overwhelmingly YES; but it is estimated that 80 per cent of French Canada as a whole, and 85 per cent of Quebec French Canadians, voted NO, and consequently refused to free the government from its promises. All these votes put together gave a majority to the positive answers. King felt he was free, and the Parliament voted conscription in 1942, though the measure was fully implemented only in 1944.

You belong to a majority. Perhaps it is hard for you to imagine what the

members of a cultural and ethnic minority can feel when, in such a vital subject, the will of the majority is imposed upon them. They feel that they are compelled by sheer force, and in this specific occasion, they thought that they were betrayed. Their loyalty to the State was badly shaken; in many individual cases, it simply disappeared. Confidence was lost. In such circumstances, you obey because you are the weaker; but, often, you try to evade the law; that is why, in many instances, runaway conscripts were hidden and helped by the population, and not at all considered as cowards: they were doing the thing that was reasonable, and the police which came to arrest them were frankly detested. This had happened in 1917, and it happened again after 1942. And it leaves deep scars. Or perhaps it would be more exact to say that it creates in the mind deep undercurrents, which unexpectedly come to the open in unexpected forms: for example, there surely exists an unconscious relation between the frustrations of 1942-44, and the intensification of the autonomist attitude, if not with the rebirth of separatism itself.

You may answer that law is law for everyone, either minority or majority: and that it is the very essence of our regime that minorities must accept the decisions of a majority. And it is true that what French Canada asked at the time, was that English-speaking Canadians refrain from doing what they had the legal power to do. But compromises of this kind are a necessity

inside a bi-cultural country. If they were not, the majority could wipe out the language and the culture of the minority. The relations between two cultural communities cannot be the same kind of relations as those between a bare majority and a bare minority: because, in the first case, democracy becomes only force and violence. In other words: to belong to a minority by free choice, and to belong to a minority by birth are not at all the same situation. A cultural minority has to obtain, *as such*, normal conditions of living, or it must disappear; because people will not accept indefinitely a basic inequality. The house would have become uninhabitable for them. Either they will decide to be assimilated, or they will continuously fight, or they will revolt. Separatism is our form of revolt.

IV

Separatism has found its best expression in the book of Marcel Chaput, to which I have already referred, "Why I am a separatist." Mr. Chaput does not like this title, which was imposed upon him by his publisher. He wants to be called an "indépendantiste"—an independentist, if this neologism has a meaning in English.

What is new, in the attitude of Mr. Chaput, can be easily summarized, because it is extremely simple and strong. Traditionally, the French Canadian Nationalist likes to invoke pacts and contracts, he says that as a minority we have been ill-treated; and when he is mad, he speaks of the Bad

*Perhaps
they won't have to
forget university
after all*

**IS THE HIGH COST OF HIGHER
EDUCATION CLOSING THE DOOR
ON YOUR HOPES FOR YOUR
CHILDREN?**

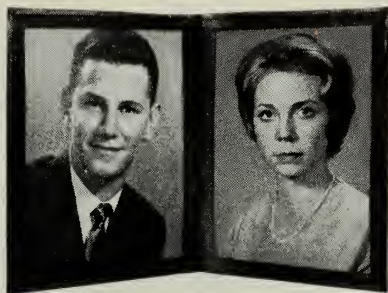
You have added up what they can earn themselves and what you can do to help. You may even be counting on a scholarship or bursary as well. Yet it's still not enough . . .

Often the extra amount you need is heartbreakingly small. Yet it is big enough to make the difference between university and—no university. And this at a time when our youth and our country both have greater need than ever for trained minds, specialized knowledge.

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Englishman. Mr. Chaput answers: this is nonsense, or emotionalism. "We are the best treated minority in the world. But that is not the point. *We do not want anymore to be a minority.*"

No mythology of the Bad Englishman. The Englishman is not bad, he is the majority. He helps himself, he uses—he does not abuse—his own strength: it is normal. He obeys the unwritten law of all majorities—which is not a moral law, but a physical one. So nothing can be changed. The majority will always be such, because it is the very nature of a majority to be what it is and to act the way it does. But then, as we are a nation, as we are numerous enough, as we possess a geographical territory and as we live in the age of self-determination, the only thing to do is to gain our political independence. Let us form the Quebec independent State where we will be the majority.

This rationalization does not convince me. But I am not tempted to become ironical about it. It is a serious and frank statement.

Except for a very, very small percentage of liberal minds, Canada is considered by English-speaking Canadians as an English Country—with a bilingual annex, Quebec. Education, or so it seems, has put this postulate in the minds of nearly all: at least, this is the conclusion to which I have come, after observing many aspects of Canadian political life for a quarter of a century. During that time, I have heard Mr. King, and Mr. Saint-Laurent, and Mr. Diefenbaker, say repeatedly that Canada is bilingual.

If this were true, then the State should express itself in both languages. Why, then, have a few words of French on federal cheques been considered such a problem, why did it take us twenty years to obtain them? Personally, I am not deeply interested in this matter of federal cheques, which I consider of third importance. But I am deeply interested in the state of mind of those who refused the measure for such a long time.

The second cause in the rise of Quebec separatism is the decolonization process. During the year and a half I was a separatist—that was around 1935—India wanted to become independent and did not succeed in liberating itself from Great Britain: in that context, how could three or four millions of French Canadians hope to achieve what 400 million Asiatics could not realize? Our ambitions were mocked even by our own compatriots.

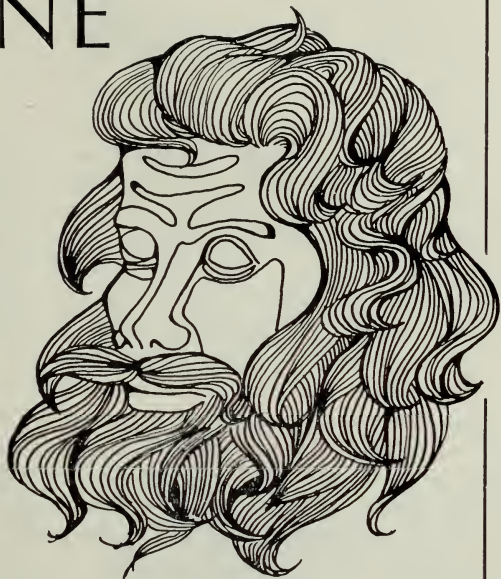
But now the international context is completely different. Why could not French Canadians in Quebec be as independent as the Sierra Leone or the Gabon or the Dahomey in Africa? It is not ridiculous any more. It even looks like a serious proposition.

I see a third cause in the fact that French Canada has more confidence in itself, and, consequently, more pride. A new life seems to be coming into our institutions, since Paul Sauvé. Old and humiliating weaknesses like "patronage" are fought if not completely suppressed. Ideas are more free, art is more creative; the same dynamism will be found in the eco-

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conomic field, though it remains the weaker spot. This effervescence has psychological effects: people become more impatient and believe more in their capacity to do things.

V

The other day, a big company held in Montreal a meeting of its administrative board. This corporation has five vice-presidents, one of whom is a French Canadian. They all asked this man why, for heaven's sake, is there a separatist movement in Quebec. He answered: "In each company, each vice-president has the ambition of becoming president. Here, we are five. The only one who knows he has no chance at all of becoming president, is me: because I'm a French Canadian. Well, that's the best explanation of separatism that I can give." Which is a crude way of expressing the desire of real equality of chance that you will find presently in all walks of life.

For instance, I know French civil servants who are separatists, and they probably are separatists because they are civil servants. What does the Canadian Government—not to speak of the provincial administrations—say to most French Canadian civil servants? In practice, it says: speak, write and work in English, on ideas and projects which originated in English minds.

I know French Canadian journalists who, to a certain extent, are separatists because they are journalists. Their newspaper is a member of the Canadian Press, which is a Toronto English-speaking organization—with

little more than a board of translators in Montreal. Result: when de Gaulle speaks in Paris, what we receive is the French translation of an English translation of a speech made in French. Just imagine what would become of Churchill's style, if his speeches received the same treatment. And this is not an exception: it is a rule—a rule of inequality.

I could multiply examples of this kind—often very small, day-to-day details. For instance, in a Montreal restaurant, if I ask for some *café*, I am still surprised to hear a waitress answer: "Sorry, Sir, I don't speak French". I am surprised because, in Montreal, French happens to be the language of the majority.

VI

I think that English-speaking Canadians can be interested in French Canada only if they are deeply interested in their own problems as English Canadians. Are they? I know that they also have their own difficulties, most of which come from the ever increasing influence of the United States, in the cultural and economic fields; their attitude in front of our neighbours makes me think of our own attitude in front of English-Canadians. It seems to be the same frustration, the same mixture of impotence and revolt, the same feeling of being depossessed of one's own self. At the same time, the Commonwealth, which could have been a protection, is rather evanescent, and the British traditions are surely weaker. To these difficulties, another one is added: the

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presence of millions of newcomers, who will surely speak English, but do not have the same cultural roots. The meaning of Canada is certainly less precise than it has been in the past, its future seems rather obscured, and the will to make it, at certain moments, appears as vacillating.

That is why I am asking myself if, at present, English Canada is really interested in itself. If it is not, then nothing can be done, and conversations will be fruitless. But if, in spite of the appearance, it is, then English Canada is involved in the problems and thinking of French Canada, because, *volens nolens*, French Canada is an important part of Canada.

In French Canada there undoubtedly exists an uneasiness. To deal with separatism, you have to deal with the causes of the uneasiness, and you have to do it in time.

Two of these causes are particularly important: one is the language, the other, the autonomy of Quebec. The first one, then, is related to bilingualism, the second, to federal-provincial relations.

Nowhere in Canada, at least officially, should French be looked on as a foreign language. If it continues to be looked on as such, then it might become foreign indeed, because Quebec is beginning to ask herself if she should not leave the common house. Bilingualism should be realistically re-examined, not in terms of concessions, but as a system, and then it should be realized in fact.

Secondly, Quebec is not a province like the others. This was admitted



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when the Canadian Confederation was founded (especially for the Civil law). It was readmitted by the Saint-Laurent Government when he accepted the clause of deductibility in 1954. It is an obvious fact. One of the ministers of Mr. Saint-Laurent, who is the man who once declared that Quebec is a province like the others, is now the Prime Minister of Quebec and calls the Province "the National State of French Canadians". So this provincial State surely needs more autonomy than Prince Edward Island. It will not be easy to translate this necessity into the articles of a Constitution. But I believe that if both nations honestly admit that it has to be done, a solution can and will be found.

Many English-speaking journalists have thought, once, that Duplessis was the author of this autonomy crisis, and that it would disappear with him. But it goes further than politics.

I have seen the people of my province in many moods. They were more passionate in 1935-36, when the Taschereau regime lived its last months: but then, there was hunger, and the Economic Depression; they were more emotive in 1942-44, after the plebiscite: but then, it was the war. This time, people seem more positive and determined. I am not a prophet, and I do not know where this attitude will lead us. Personally, I hope that it will last, that it will be creative, and give birth—if there is a response from the other side—to a new type of collaboration with the whole of Canada.

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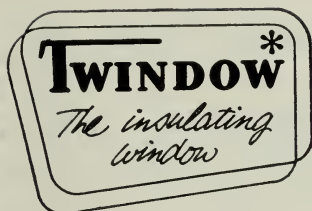
ROM REVISITED . . .

(Continued from page 67)

vestigation requires. No men are more conscious of the need for conservation of wild life of all sorts than are than are the curators of Life Sciences, and their advice is constantly sought.

Nor is the family that gazes soulfully at the lion on Sunday afternoon, wondering why Leo had to die, the only or even the chief concern of the ROM. It is primarily a research organization, secondarily a teaching organization, and only after these purposes have been served is it a place of public amusement. Of the half-million people who visit it every year a large proportion are already informed about what they are going to see; they are in some sense—from the most tentative of amateurs to the experts—archaeologists, zoologists, geologists, mineralogists, or students of human ingenuity and taste.

The Museum is rightly a part of the University community, because of its teaching function. Seventy thousand school children every year are given instruction by the ROM; children who live within easy range visit it directly, and others, from the Quebec border westward to Manitoba, and as far north as Moosonee, are visited by its travelling exhibitions and the instructors who go with them. One of these instructors may speak to nine classes a day for three successive days, in a school far from Toronto; anyone who has had any experience of teaching knows what that means in output of enthusiasm and the quality actors call 'projection'. But it



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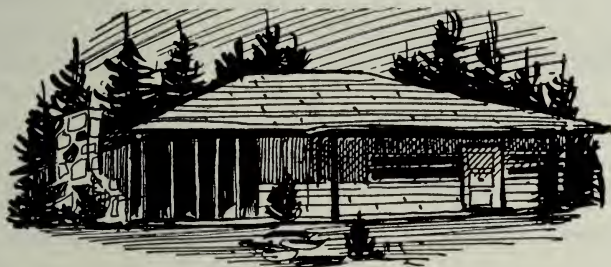
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is as a University museum that the most important work of the ROM is done. Varsity undergraduate and graduate students make continuous and extensive use of its resources in their pursuit of a score of studies in arts and sciences. The ROM staff are University appointees, part of whose task is to give instruction. The ROM is a university museum, and it is also a provincial museum; in both aspects its job is to teach.

Teaching soon grows stale if it is not refreshed by research, and that demands continual expansion of the Museum collections. In the three main divisions of the ROM—Art and Archaeology, Earth Sciences and Life Sciences—there are nineteen collecting departments. All of these are of importance beyond the Museum's confines; the collection relating to Roman Britain, for instance, is the only one of its kind on this continent. How are the manifold articles acquired to extend and enrich the collections?

Some are gifts, and many of these are very handsome, but a museum cannot live by gifts. Furthermore, the Canadian taxation laws make inadequate allowance for such gifts, and donors who have enthusiasm, taste and some means are discouraged from doing all they could for the ROM. It is to be hoped that sympathetic consideration will be given to the plight of Canadian museums, and given soon, by the Dominion Government, which might well consider what U.S. law permits in this respect.

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other museums, but this is much less probable in the Art and Archaeology Division, for in this realm Canada has virtually nothing to exchange. In this realm, also, international prices have increased in some fields by as much as 1500 per cent during the past five years. Soaring costs and the lack of encouragement to private benefactors create a problem for the ROM which it is not proper to discuss here. Nevertheless, it must constantly be in the minds of those charged with the direction of a museum which had its origin in the generosity of a group of private enthusiasts, and attained its renown under that most gifted and daring of mendicants, the late C. T. Currelly.

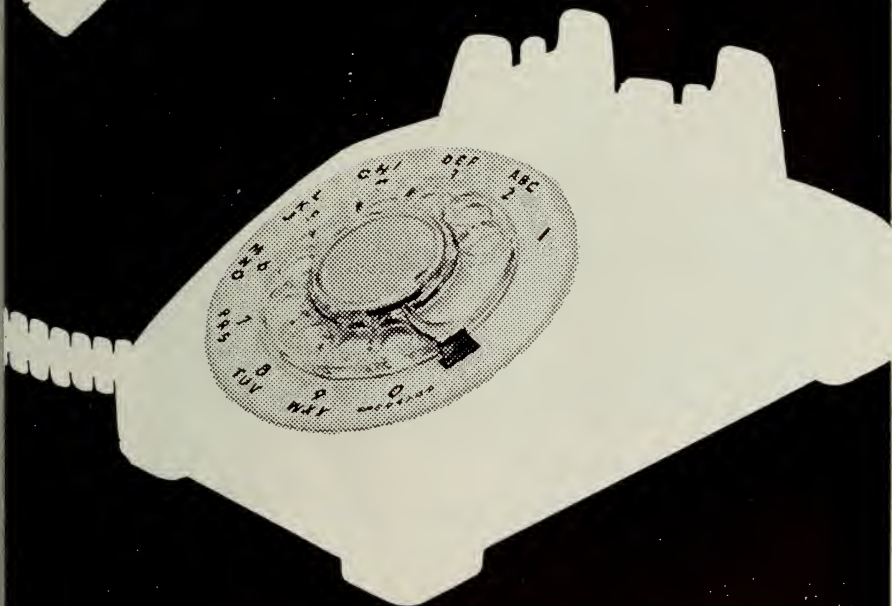
Museums, like universities, seem to people who know little about them to be abodes of peace, where gentle, unworldly men dream of an idealized past. In fact, universities and museums in the New World, at any rate, exist in a perpetual state of crisis. The crises at the ROM are variations on the themes of shortage of space and shortage of money; it has met these crises for the past fifty years with a remarkable combination of ingenuity, hard-headedness and the luck which blesses those whom the gods love. It progresses from strength to strength, making its plans for acquisition in terms of possible funds, and trying to keep its exhibitions planned three years in advance. It counts on gaining friends, and it does so. The Royal Ontario Museum faces the next fifty years in a healthy nervous state of optimism.



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